12.0 WASTE ANALYSIS PLAN

22 CCR 66270.14(b)(3)

The attached Exhibit 12-1 provides the WAP required by 22 CCR 66270.14(b)(3).

EXHIBIT 12-1

WASTE ANALYSIS PLAN

WASTE ANALYSIS PLAN

KETTLEMAN HILLS FACILITY
KINGS COUNTY, CALIFORNIA

CHEMICAL WASTE MANAGEMENT, INC.
35251 Old Skyline Road
P.O. Box 471
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Revised: September 3, 1998
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July 31, 2019

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APPENDICES

12.1.0 INTRODUCTION

In accordance with Federal regulations set forth in 40 CFR Part 264.13 and State of California regulations found in 22 CCR 66264.13, Chemical Waste Management, Inc. (CWMI) has developed this Waste Analysis Plan (WAP) for its Kettleman Hills Facility (KHF) located in Kings County, California. The plan is an integral component of the facility's Operation Plan. A copy of the WAP will be available at the facility at all times.

The purpose of the WAP is to document the necessary sampling methodologies, analytical techniques, and overall procedures, which are undertaken for all hazardous wastes (hereinafter "wastes") that enter the facility for storage, treatment, and/or disposal. Specifically, the plan delineates the following:

- Sampling Methodologies to obtain samples from waste shipments entering the facility (see Section 12.2.0)
- Analytical Parameters and Rationale to document the decision logic for the selection and application of various analytical parameters used to determine certain waste properties to ensure proper management of the waste (see Section 12.3.0)
- Pre-Acceptance Procedures to determine the acceptability of a particular waste stream pursuant to facility permit conditions and operating capabilities prior to any acceptance of that waste at the facility (see Section 12.4.0)
- Incoming Waste Shipment Procedures to identify that the delivered waste matches the accompanying manifest, pre-acceptance documentation, and the conditions of the facility's permits (see Section 12.5.0)
- Process Operations Procedures to maintain safe and appropriate methods of storage, treatment, movement, and disposal of wastes within the facility (see Section 12.6.0)
- Quality Assurance/Quality Control Procedures to ensure the accuracy and precision of sampling and analysis activities (see Section 12.7.0)

It is the policy of CWMI that all wastes handled by the facility will be subject to these procedures, as applicable. This is to help ensure the facility will be in compliance with applicable permits and regulations. The forms shown within this WAP are typical forms currently used by the facility. These forms may change to equivalent or alternative forms based upon changes in regulations, customer needs, facility operations, company policy, or other needs. KHF maintains these forms in the facility operating record as stated in Section 12.1.1.

The Laboratory, Technical, Operations, Environmental or District Managers or their designee(s) may, hereinafter, be referred to individually or collectively as "facility management".

For the purposes of implementation and performance of this WAP, "CWMI " and/or "laboratory" means the KHF laboratory

This WAP may periodically require revision due to changes in technology and/or regulatory requirements. Revisions to the WAP will be made in accordance with the requirements for completing a permit modification found in 22 CCR 66270.42. If a revision to the WAP requires implementation on a short notice, the facility may request temporary authorization from DTSC to implement changes under temporary authorization in accordance with 22 CCR 66270.42(e).

The sampling and analytical procedures established for the treatment, storage and disposal of certain Land Disposal Restricted (LDR) hazardous wastes are contained in Appendix WAP-B.

12.1.1 Operating Record

KHF maintains generator-supplied and company-developed information, decisions and forms in accordance with regulations found in 22 CCR 66264.73 and 22 CCR 66268.7. The documentation may be received, stored, transmitted, and/or retrieved electronically, in addition to, or in lieu of, hard (paper) copy. All documentation which is developed and/or received relating to the procedures delineated within the WAP, up to and including final disposal, are maintained in the KHF onsite files and/or on electronic databases that are readily accessible.

12.1.1.1 Mitigation for Power & Network Outages

In the absence of power or network availability, the facility will utilize off-site resources, such as using mobile phones to contact off-site technical service representatives, to obtain information required to accept waste. In addition, hard-copy blank process forms are maintained at the site to utilize in the absence of power or network availability. If the facility cannot access the necessary information to process a waste profile, or the appropriate forms are not available, the facility will halt the acceptance or processing of any waste until such information is readily available.

12.2.0 SAMPLING METHODOLOGY

Samples of the incoming waste are taken by CWMI personnel to identify waste shipments. If necessary, samples are taken by the waste generator to make the initial waste determination at the point of origin. Specific sampling procedures are dependent on the nature of the material, the type of containment, and knowledge of the waste components. This section presents sampling methodologies to be used by CWMI personnel. Waste generators are referred to 22 CCR 66261, Appendix I and 40 CFR Part 261, Appendix I for appropriate sampling procedures.

When a waste shipment arrives at the facility for management, a determination previously has been made that the material is either:

- A listed hazardous waste as defined in Subpart D of 40 CFR Part 261 or as defined in CCR, Title 22 66261;
- A characteristic hazardous waste as defined in Subpart C of 40 CFR Part 261 or 22 CCR 66261;
- A recyclable hazardous waste, as defined by 40 CFR Part 261.6 or 22 CCR 66261.6; or
- A solid waste which is not hazardous waste as defined in 40 CFR Part 261.4(b) or 22 CCR 66261.4 (b).

The waste characterization provides CWMI with information concerning the distribution and nature of the waste components. Since the waste characterization information is provided to CWMI as a condition of waste approval/acceptance, and the sampling, inspection, and analysis performed at the facility are to ensure the received waste material matches the description of the waste on the accompanying manifest, a sampling approach that is less comprehensive for obtaining a waste identification sample is appropriate for incoming waste shipments (SW-846, Chapter Nine). After its arrival at the facility, unless otherwise stated in Section 12.5.1.1, the shipment of material is sampled and analyzed to ensure it matches the overall identity of the waste designated on the accompanying manifest (or shipping paper) and the pre-acceptance paperwork. The analyses also help to ensure the appropriate treatment, storage, or disposal technique(s) can be utilized.

The sampling equipment and procedures described in this WAP represent the facility's recommended sampling protocol for general types of waste material and containment. Specific waste materials or shipments may require different sampling techniques. Therefore, deviations from the recommended protocol described in this WAP may be required. All methodologies will be updated and revised as the references are updated and revised.

12.2.1 Sampling Techniques

At a minimum, the sampling methods and equipment used by CWMI for specific materials correspond to those referenced in 40 CFR Part 261, Appendix I, and 22 CCR 66261, Appendix I. The sampling methods and the equipment used for different materials are presented on Table 12.2-1 in Appendix WAP-A. CWMI and KHF may modify the technique as necessary to obtain a sample (see comments following 40 CFR Part 261.20(c) and 22 CCR 66261.20(c)). A description of the various types of sampling equipment is available in SW-846, Chapter 9.0 (see reference in Table 12.2-1).

12.2.2 Sampling Strategies

In addition to American Society for Testing and Materials (ASTM) and EPA sampling procedures, CWMI has instituted specific methodologies for taking samples from various types

of containers. CWMI will select sampling methods described in Table 12.2-1 and will only institute site-specific methods if the sampling methods in Table 12.2-1 cannot be used, i.e. are not practical based on material and/or container type. Any site specific methods will be adequately described and documented in a site operating procedure. The types of material containment include drums, roll-off boxes, lugger boxes, tank trucks, or dump-type trucks. In addition, the wastes in facility waste management units such as tanks, surface impoundments, or sumps may be sampled and analyzed. The sampling devices are selected depending on the size and type of the containment and on the specific material involved. In most instances, drummed liquids and semi-solids are sampled with coliwasa or thief samplers.

12.2.2.1 Containers and Tanks

Sampling of small containers (for example, drums, cartons, and other small units) varies with the nature of the waste material. For flowable materials, the sampling device of choice is a Coliwasa unit, tubing, or other appropriate sampling device. For non-flowable wastes, a thief, trier, scoop, shovel or other appropriate sampling device is used to obtain a sample.

Large containers and tanks containing flowable materials are sampled with a Coliwasa, tubing, weighted bottle or bomb sampler or via tank sampling ports, or by other appropriate means. Light, dry powders and granules in bulk containers are sampled with a tube or other appropriate sampling device. Heavier solids are sampled by trier, shovel, heavy tubing or other appropriate sampling device. Tank sediments are sampled from the bottom sampling valve when they cannot be sampled by other means.

12.2.2.2 Surface Impoundments

A weighted bottle, dipper sampler, pump or other appropriate sampling device is used to obtain a sample from the impoundment. A daily sample will be obtained from the surface impoundment(s) designated for waste receipt during an operating day for use in waste compatibility analysis, see Table 12.3-2. If more than one sample is collected, i.e. multiple collection events required to obtain sufficient volumes needed by the laboratory for the anticipated daily waste volume, the samples may be composited prior to submission to the laboratory. If the KHF Laboratory consumes the entire sample volume prior to the end of the operating shift, a subsequent sample will be obtained if required, i.e. additional waste volume is anticipated.

12.2.2.3 Post-treatment Sampling for LDR Verification

The sampling frequency used to verify that LDR waste is treated to the appropriate LDR treatment standards is described Section 12.6.3.3.2. After the treatment process, treated waste material is placed into a roll-off box for storage pending analytical results. A grab sample will be pulled from the roll-off box for post-treatment analysis to demonstrate LDR compliance.

12.3.0 ANALYTICAL RATIONALE

Analyses are conducted by KHF's laboratory to identify the incoming waste shipments and to ensure compliance with facility acceptance criteria. Analyses are also utilized to provide data necessary for proper waste handling. The waste characterization is obtained by CWMI on the waste profile (see Figure 12.4-1 for a typical form). CWMI obtains all the information required by 40 CFR Part 264.13(a)(1) [as outlined in 40 CFR Part 264.13(a)(2) and comment] and 22 CCR 66264.13(a)(1) [as outlined in 22 CCR 66264.13(a)(2)]. See Section 4.1 for a detailed discussion. Analytical methods are classified as either "mandatory" analyses or "supplemental" analyses, as described below:

- Mandatory analyses shown in Table 12.3-1 are performed (as needed) on pre-acceptance and incoming shipment samples (except as noted in Section 5.1.1) in order to further identify a waste shipment as corresponding to a manifest and a waste profile. Mandatory analyses may also be performed to confirm the pre-acceptance paperwork information.
- Supplemental analyses shown in Table 12.3-2 are requested by the facility management to augment existing information on the waste in order to further identify a waste or to further ensure that the appropriate management technique can be utilized.

At a minimum, all waste samples are subjected to the mandatory analyses as a first step in the analytical scheme (unless no analytical is required as provided in Sections 4.0 and 5.0). Facility management may select additional supplemental analyses according to need. This arrangement allows a tiered approach to waste identification, enabling KHF to structure the analyses to adequately identify the waste or to define operational parameters for various treatment processes.

Most analyses utilize procedures from authoritative sources such as the EPA, ASTM or Standard Methods for the Examination of Water and Wastewater. Where standardized methods are not available, unique procedures and protocol that meet CWMI performance standards are used. Certain mandatory and supplemental analyses have been developed by KHF. Analytical parameters and the rationale for their use are provided below and test procedures are provided in Table 12.3-3. Analyses are not necessarily repeated for sequential activities or movement of the same waste within the facility unless required by changes in the waste's character, as determined by facility management. Facility management may waive specific mandatory or supplemental analyses if performing the analyses presents a safety hazard to facility personnel. This waiver will in no way cause the facility to mismanage the waste stream or to manage the waste stream to a lesser degree than required by regulation.

Other parameters not listed may be added as required (by changes in regulations, processes, waste streams, etc.). The techniques used for these parameters are as follows:

- Among those listed in Tables 12.3-1, 12.3-2 and 12.3-3
- From sources listed in the references at the end of Tables 12.3-1, 12.3-2 and 12.3-3
- From other authoritative sources of standard procedures, for example, EPA or Association of Official Analytical Chemists (AOAC)
- Among those developed by CWMI through its operating experience for general waste identification and/or proper waste management and which meet CWMI performance standards.

The waste management unit parameters for tanks, impoundments, and landfills discussed in the applicable sections of the Operation Plan represents current criteria for KHF. As a consequence of changes in incoming wastes, market conditions, facility operations (for example, availability of process or unit capacities), regulations, etc., it may be necessary to reassign a specific tank or impoundment to a different waste management operation or to expand the list of parameters for a given unit. Should such changes be warranted, KHF will evaluate the change against 22 CCR, Division 4.5, Chapter 20, Article 7, Appendix I and apply for a permit modification as required.

12.3.1 Mandatory Analyses

Mandatory analyses include seven (7) basic screening procedures that are performed to provide a general identification of the waste and to indicate the type of treatment, storage, and/or disposal that is most suitable. Table 12.3-1 provides the parameters and associated rationale for these mandatory analyses.

12.3.2 Supplemental Analyses

Supplemental analyses are performed to further identify the waste, as appropriate, e.g. when pre-acceptance information supplied by the generator, and/or results of mandatory screening tests, do not provide the required information to demonstrate conformance with manifested material and/or for the waste material to be processed at a particular unit(s). Results of these analyses provide facility management with additional information concerning the identification of a waste shipment or the proper means of treatment, storage, and/or disposal. Each treatment, storage, and/or disposal unit has a unique set of limitations. Once the facility management has made a preliminary decision as to the acceptability of the waste at a particular unit (that is, the targeted unit), the laboratory may conduct supplemental analyses, as necessary, to assure that the waste does not exceed a parameter limitation for that unit (see the applicable sections of the Operation Plan for unit-specific limitations and criteria). Some of these additional analyses use unique procedures and protocols developed by CWMI through its operating experience for general waste identification and meet CWMI performance standards. Others are standard analytical techniques recognized by the EPA and ASTM. Table 12.3-2 provides the parameters and associated rationale for these supplemental analyses. Examples of the decision to perform supplemental analysis include, but are not limited to, positive ignitability screen of liquid waste which would require subsequent flash point analysis, compatibility test of waste material with an on-site surface impoundment prior to disposal, or paint filter test to confirm absence of free liquids prior to disposal in a landfill. Other parameters not listed here may be added as required (by changes in regulations, processes, and waste streams, etc.)

12.4.0 PRE-ACCEPTANCE PROCEDURES

CWMI has developed a series of control procedures to determine the acceptability of specific wastes for management at the facility. These pre-acceptance control procedures dictate what information a potential customer must provide to enable CWMI to determine the acceptability of the waste for treatment, storage, and/or disposal. At a minimum, all of the information required by 40 CFR Part 264.13(a)(1) [as outlined in 40 CFR Part 264.13(a)(2) and comment] and 22 CCR 66264.13(a)(1) [as outlined in 22 CCR 66264.13(a)(2)] to identify, treat, store, or dispose of the waste is obtained.

Pre-acceptance control is a mechanism for deciding to accept or reject a particular type of waste based on limitations imposed by existing permits, regulations, and/or technical considerations. Technical consideration includes the effectiveness of a treatment/disposal process for a particular waste and the compatibility of wastes being treated, stored, or disposed of at the facility. The pre-acceptance procedures for this facility may be carried out at this facility, another CWMI facility or CWMI-approved facility, or upon receipt of the shipment prior to its acceptance.

The pre-acceptance procedures include the following steps:

- Waste information - CWMI obtains sufficient information to make a decision regarding the management of a candidate waste stream.
- Initial review - The waste information and, if necessary, screening (mandatory) analyses of a requested sample by the laboratory allows CWMI to conduct an initial evaluation of the information and waste material for appropriate management techniques.
- Disposal decision process - CWMI documents the initial pre-acceptance procedure evaluation for the acceptance of the candidate waste stream. In addition, any special management practices required for an accepted stream may be specified at this time.
- Re-evaluation process - This process includes procedures for when the re-evaluation of a waste stream is conducted once it has been accepted.

12.4.1 Procedural Requirements

The following procedures apply to each new waste stream and, as required, to site generated waste that are candidates for management at the facility:

I. CWMI will obtain the following:

A) Pertinent chemical and physical data is provided by the generator on the waste profile (EZ Profile™ or an equivalent or alternate form), shown as Figure 12.4-1. This includes the following specific information:

1. Waste description or common name: Simple descriptor of the waste.
2. Process generating the waste: Includes an adequate description of the process that generated the waste or the industry that the waste was generated from. The EZ Profile™ requires that the generator provide applicable federal and/or state hazardous waste codes, providing further clarity about the origin of the waste.
3. Physical and chemical composition: Physical composition defines what is expected to be present in the waste that may be identified during the visual

inspection (e.g. soil, debris, filter cake, sludge, water, oil) The chemical composition may list the contaminants known to be present based on generator knowledge, or it may present in the supporting documentation provided by the generator, such as, chemical analysis or SDS.

4. Waste Codes: EPA RCRA Codes and/or California Hazardous Waste Codes
5. Color: Typically, a specific color(s) or color range is provided. The terms "Varied", or "Various" may be used when different colors are present in the waste being profiled. Examples include, but are not limited to, debris waste, lab packs, commodity packs, batteries, and aerosol cans. Generators are encouraged to use primary colors in descriptions where appropriate.
6. Physical State: The physical state of the waste will be identified as a solid or liquid. Both solid and liquid, or the descriptor "Other", can be identified by the generator for semi-solid waste with high moisture content, such as sludges and some filter cakes. For waste identified as liquid, or containing liquid, an appropriate free liquid range will be specified on the profile.
7. pH range: A range of +/- 2 pH units shall be specified by the generator. For example, a waste with a pH of 7, a pH range of 5 to 9 would be specified. For non-aqueous liquid waste or waste that is insoluble in water, the generator can select "N/A" on the EZ Profile™. Wastes that are exempt from sampling (e.g. debris and lab packs) may use "NA" or a broader pH range than the +/- 2 pH units.
8. Flashpoint: Generator will identify the appropriate flash point range for the waste being profiled on the EZ Profile™.

B) A representative sample, if required. A representative sample may not be required by CWMI if facility management determines that the pre-acceptance documentation provides sufficient information to maintain compliance with permit and operational constraints and obtaining a sample would not aid in the disposal decision process. When necessary, this sample may be obtained by CWMI upon receipt of the initial shipment of the waste prior to acceptance;

C) LDR Notification/Certification Information and Data, in accordance with 40 CFR Part 268 and 22 CCR Chapter 18 (22 CCR 66268);

D) Other supporting documentation such as additional analytical results, Safety Data Sheets (SDS), product ingredients, etc.; and

E) If the waste is in the form of a lab pack, and the lab pack will be placed in the landfill, the generator will describe the contents of the drum and provide a statement that the lab pack meets the requirements of 22 CCR 66264.316. If applicable, the generator of a lab pack waste will supply the appropriate LDR notification/certification forms for lab packs.

II. On occasion, analysis may be necessary on a sample(s) of the waste in order to provide the facility with the information needed to determine if the waste can be managed and/or to determine if the waste material matches the identity of the waste designated on the accompanying pre-acceptance paperwork. When a pre-acceptance sample is necessary, CWMI will have the mandatory analyses performed on the sample. Analyses will be done

for the parameters outlined in Section 12.3.0. If the sampling is performed by CWMI, it will be done in accordance with the procedures outlined in Section 12.2.0.

III. After evaluating the above information and any data obtained by the laboratory, CWMI will determine the acceptability of the waste based on: (1) the applicable regulations, (2) the permit conditions for the facility and (3) the availability of the proper waste management techniques.

12.4.2 Waste Profiles

12.4.2.1 Waste Profile

A generator and/or representative working on behalf of the generator, will submit the waste information using a blank EZ Profile form via electronic submission. The generator must enter their site information, material composition, EPA ID #, as applicable, and their billing information; other information, such as shipping method and anticipated volume is also required to be entered. Every generator who utilizes the EZ Profile form is issued a unique profile number for tracking and identification purposes. Multiple generating locations may be added, with their unique EPA ID #'s, as long as the generator information remains the same. Different generators cannot use a profile number that has been created by a different, non-related generator.

12.4.2.3 Standard Profiles

KHF utilizes standard profile templates, or "Express Profiles", for waste streams that are commonly generated in the industry. When the generator uses one of these templates the system pre-populates the EZ Profile form with specific information about the waste. Prior to selecting one of the Express Profiles, the generator must review the specific information about the waste to ensure it accurately describes the waste they have generated. If the Express Profile does not accurately reflect their waste, they would choose to use the blank EZ Profile form instead. The generator must enter their site information and EPA ID #, as applicable, and their billing information. Other information, such as shipping method and anticipated volume is also required to be entered. The generator cannot change any of the pre-populated waste information in the Express Profile. Every generator who utilizes the Express Profile template is issued a unique profile number for tracking and identification purposes. Multiple generating locations may be added, with their unique EPA ID #'s, as long as the generator and billing information remains the same. Different generators cannot use a profile number that has been created by a different, non-related generator.

The completed Express Profiles are reviewed and approved by Waste Approval personnel utilizing the same process as a profile submitted on the EZ Profile form. The generator may be required to provide additional information (analytical, SDS, or lab pack inventory) to support the waste characterization for the Express Profile template they have selected.

12.4.3 Decision Evaluation Logic

Both CWMI and the Waste Management Technical Service Center are responsible for the pre-acceptance evaluation decision (that is, whether to accept or reject the waste). Figure 12.4-2 presents a general logic diagram of the pre-acceptance process.

The pre-acceptance disposal decision evaluation is concluded with a documentation of the decision regarding the acceptability of the waste and the proposed method of management.

Technical disposal decisions are based on:

- Management methods available;
- Conditions or limitations of existing permits and regulations;
- Capability to manage the waste in a safe and environmentally sound manner;
- Description of the process generating the waste;
- Description of the chemical and physical properties of the waste;
- Any additional documentation supplied for the waste stream, including information that the waste is subject to the LDRs of 40 CFR Part 268 and 22 CCR Chapter 18, if appropriate;
- Results of mandatory analyses, when required;
- Results of supplemental analyses, as appropriate; and
- Technical experience and judgment.

12.4.4 Waste Profile Re-evaluation

In accordance with 40 CFR Part 264.13 and 22 CCR 66264.13, a waste profile re-evaluation will be conducted when one of the following occurs:

- Every 24 months, or
- A generator notifies CWMI that the process generating the waste has changed; or
- Results of inspection or analysis indicate that the waste received at the facility does not match the identity of the waste designated on the accompanying manifest or shipping paper or pre-acceptance documentation, in which case the procedure in Section 12.5.2 is followed.

When this occurs CWMI will review the available information. If available analytical data is not sufficient, the generator may be asked to review the current waste profile, to supply a new profile, to supply additional information or analytical data, and/or to submit a sample for analysis, or KHF may obtain a sample from a shipment of the waste.

In addition to the profile re-evaluation procedures above, for RCRA wastes, a determination of average VO concentration will be reviewed and updated at least once every 12 months following the date of the initial determination, as applicable under 66264.1082(c)(1).

12.5.0 INCOMING WASTE SHIPMENT PROCEDURES

After arrival at the facility, each shipment of waste is inspected, sampled, and analyzed as described herein before the initiation of any further activity (except as noted in Section 12.5.1.1). This serves two purposes: (1) to compare the actual waste identity with that determined in the pre-acceptance procedures and those listed on the waste manifest, and (2) to ensure the proper disposition of the waste for treatment, storage, and/or disposal. In the event the container type prohibits an adequate visual inspection (e.g. a compactor bin) other measures will be taken to obtain a complete visual inspection, e.g. off-loading material at the Final Stabilization Unit so a visual inspection can be completed prior to disposal. If an adequate visual inspection cannot be completed prior to disposal, the material will be subject to rejection from the facility. Materials to be transferred off-site without treatment or processing are not sampled or analyzed, but the unopened containers are visually inspected for container integrity.

For each waste prohibited under regulatory Land Disposal Restrictions that has been treated, exempted, varianced, or meets the appropriate treatment standard(s) or prohibitions without treatment, the treater or generator must submit a one-time written certification or notification (as appropriate) with the initial shipment. The certification or notification shall state that the waste meets the appropriate treatment standard, prohibition, exemption, or variance (or that the waste naturally meets the appropriate treatment standard in accordance with 22 CCR 66268.7 and 40 CFR 268.7). Examples of the certification forms used by the KHF are shown in Figure 12.5-2.

Furthermore, wastes which are prohibited under regulatory LDRs and require treatment, the generator/ treater must submit a one-time written notice with the initial shipment notifying the treater of the appropriate treatment standards and all applicable prohibitions which must be met (in accordance with 22 CCR 66268.7 and 40 CFR 268.7). Examples of the certification forms used by the KHF are shown in Figure 12.5-2.

For containerized waste intended for landfilling where the generator (or treater) has previously identified (see Section 12.4.1) that sorbents have been added to the waste to sorb free liquids, a determination will be made, prior to disposal, that certification has been received from the generator (or treater) that no biodegradable sorbents (as described in 22 CCR 66264.314(d) and 40 CFR Part 264.314(e)) are included in the waste in accordance with 22 CCR 66264.13(c)(3) and 40 CFR Part 264.13(c)(3). Examples of the certification forms used by the KHF are shown in Figure 12.5-2.

12.5.1 Receiving Procedures

Incoming waste shipment identification begins after arrival of the waste at the facility. The inspection, sampling, and analysis of the incoming waste are performed in accordance with the methods and parameters described in Sections 12.2.0 and 12.3.0 herein. The incoming shipment mandatory and supplemental analyses are described in Sections 12.3.1 and 12.3.2 of this WAP. Other CWMI personnel (or a CWMI -approved laboratory) can provide the sampling and mandatory and/or supplemental analyses required by this WAP prior to or concurrent with the arrival of the shipment. Waste shipments that have arrived at the facility are considered to be in the receiving process until such time that the laboratory and/or facility management makes a final decision regarding waste acceptability; at such time the wastes are considered accepted.

Unless provided otherwise in Section 12.5.1.1, to identify waste properties and ensure the acceptability of waste shipments of drums or portable tanks, containers will be opened,

sampled, and analyzed for the Table 12.3-1 mandatory analyses and, as needed, Table 12.3-2 supplemental analyses. Container samples from the same waste stream, i.e. same waste profile, may be composited for analysis; no more than ten individual container samples may be composited to form a composite sample for analysis. The composited sample will be evaluated for homogeneity by facility personnel in accordance with facility standard operating procedures for subsampling material for waste analysis. If a composited sample is not homogenous, facility personnel will obtain and transfer an approximately proportional quantity of each component in the original sample.

Incoming bulk solid wastes that, due to the process generating the waste, may be received at an elevated temperature or any bulk solid waste that gives the appearance of having excess heat and an elevated temperature will be subjected to the thermal measurement procedure for bulk solid waste. This procedure is described in Appendix WAP-C entitled Thermal Measurement Procedure for Bulk Solid Waste.

Incoming waste shipments will be subjected to a radionuclide screen either upon entry to the facility through the truck scales or prior to acceptance of the waste material at the facility. This procedure is described in Appendix WAP-D entitled Radionuclide Screening Procedures for Incoming Waste.

All bulk waste shipments are inspected and, with the exceptions of those specified in Section 12.5.1.1 and as follows, are sampled and analyzed for the Table 12.3-1 mandatory analyses and, as needed, Table 3-2 supplemental analyses. When more than one load of waste is received from one profile (for example, a major site clean-up of contaminated soil), all shipments are visually inspected and at least 10% of the shipments received on a daily basis, are sampled and analyzed, unless otherwise specified in Section 12.5.1.1.

Examples of the load form used by the KHF for incoming waste shipments are shown in Figure 12.5-3.

12.5.1.1 Exceptions

Exceptions to the foregoing requirements include the following:

- Lab packs including, but not limited to, discarded containers of laboratory chemicals or waste that are packaged in sealed, non-leaking, small inner containers, which are then overpacked into drums. Drums destined to be placed in the landfill must be packaged in accordance with 40 CFR Part 264.316 and 22 CCR 66264.316.
- "Empty" containers (as defined by 40 CFR Part 261.7 and 22 CCR 66261.7).
- Asbestos-containing waste.
- Beryllium-containing waste (for example, from machining operations).
- Articles, equipment, containers, debris, solids, or liquids contaminated with PCBs.
- Non-infectious waste from a hospital, medical facility, nursing home, veterinary hospital, or animal testing laboratory.
- Commercial products or chemicals: off-specification, outdated, unused, contaminated or banned. This also includes products voluntarily removed from the market place by a manufacturer or distributor, in response to allegations of adverse health effects associated with product use.

- Debris as defined in 40 CFR Part 268.2 or 22 CCR 66268.2. These materials will be visually inspected after receipt but before shipment acceptance (see Section 12.5.1) in order to ensure that the waste meets the definition of debris.
- Contaminated personal protective equipment (PPE) - This includes but is not limited to gloves, tyveks, respirator cartridges, clothing, etc.
- Waste produced from the demolition, dismantling, or renovation of industrial process equipment or facilities. These may include equipment and/or building materials contaminated with chemicals used in the industrial process.
- Waste materials which are not hazardous under 22 CCR §66261 or under 40 CFR Part 261.
- Waste from a remedial project in which the sampling and analysis plan was approved by a federal or state agency (for example, CERCLA or state equivalent or a project funded by one or more potentially responsible parties).
- CWMI site-generated waste, unless otherwise it is required. The site-generated wastes include rainwater from collection sumps, rainwater from trenches, spill clean-ups, etc.
- Controlled substances regulated by the Federal Government including illegal drugs and/or materials from clandestine labs.
- Single substance contaminant.
- Wastes, which are visually identifiable through an inspection process. Examples include cathode ray tubes, batteries, fluorescent light tubes, filters and filter cartridges, wire or tubing, paper products, metal sheeting and parts, crushed glass, piping, etc.

In addition to these exceptions, facility management may waive sampling and analysis where the pre-acceptance information is sufficient to ensure compliance with permit conditions and operational constraints of the treatment process; and any one of the following conditions exist:

- Obtaining a sample poses an unnecessary hazard of acute or chronic exposure of CWMI employees to carcinogenic, mutagenic, neoplastigenic, teratogenic, or sensitizing materials; or
- The material may react violently with air or moisture; or
- The material's odor poses a public nuisance when sampled; or
- A sample cannot be reasonably obtained, such as filter cartridges, large pieces of contaminated material, or contaminated debris.

A Waste Analysis Plan (WAP) exemption number is assigned to the exception types listed above and listed on facility paperwork. Where a load is exempted from sampling under the exceptions listed, the WAP exemption number is indicated on the waste shipment paperwork. Table 12.5-1 includes the list of WAP exemption numbers and their corresponding exception type, Figure 12.5-3 shows an example of the waste shipment paperwork.

In these cases, the shipment will still be inspected for conformance with manifest documentation as previously described. The unopened containers are at a minimum visually inspected for container integrity. The sampling and analysis of the above materials is not required unless specifically requested by facility management. These materials are not sampled because they present extraordinary health and safety hazards (e.g., asbestos), exhibit unusual or impractical sampling and analytical complication (e.g., PPE, visually identifiable wastes),

and/or are of such a nature that their contents are known in sufficient and reliable chemical and physical detail that sampling and analysis is not warranted (e.g., outdated commercial products, waste from a remedial project). CWMI will obtain the information required by by 22 CCR 66264.13(a)(1) and 40 CFR Part 264.13(a)(1)(2) and comment, necessary to treat or store the waste.

12.5.2 Decision Evaluation Logic

Figure 12.5-1 depicts the general logic used by the facility management in deciding whether to accept or reject a particular waste shipment. Major decision points include the following:

- Need for additional supplemental analyses (1),
- Actual waste identification (2),
- Evaluation of whether a waste is found to be in conformance or non-conformance (3), and
- Evaluation of whether a waste found to be in non-conformance can still be accepted (4).

1. Need for Additional Supplemental Analyses

   Facility management decides whether additional supplemental analyses are required for a particular waste based on the following:

   - Results of mandatory analyses, as appropriate;
   - Knowledge of generator and/or waste-generating process;
   - Results of pre-acceptance evaluation;
   - Limitations of the targeted waste management unit;
   - Conditions and limitations of existing permits and regulations;
   - Experience of the facility management in determining the need to know more information; and
   - Any additional documentation obtained for the waste stream, including information that the waste is subject to the Land Disposal Restrictions of 40 CFR Part 268 and 22 CCR Chapter 18.

   Further testing will be required if results indicate unexpected presence or absence of a screen parameter with respect to pre-acceptance analytical results, or if facility management has reason to suspect that the waste composition has changed.

2. Actual Waste Identification

   The effectiveness of the waste identification step is dependent on one or more of the following components:

   - Inspection;
   - Sampling, if applicable;
   - Analytical results;
   - Waste profile;
   - Any additional documentation obtained, such as SDS, product ingredient, etc.;
   - Waste manifest;
   - Appropriate LDR Notification and/or Certification forms (see Section 12.5.0);
   - Pre-acceptance analytical results, if applicable; and
   - Facility management's judgment.

3. Evaluation of Whether a Waste is Found to be in Conformance or Non-Conformance

Facility management must classify the waste as being in "non-conformance" if it is significantly different in quantity or type from the information shown on the manifest (in accordance with 40 CFR 264.72, 22 CCR 66264.72, 40 CFR 761.215, and 22 CCR 66261.111). A significant discrepancy in quantity, when compared to the information stated on the manifest, includes:

- For bulk wastes, any variation in weight (volume) greater than 10%;
- For batch wastes, (e.g. drums, boxes) any difference in piece count;
- For TSCA regulated waste:
  - For bulk waste, variations greater than 10% in weight(volume) or variations greater than 10% in weight of PCB waste in containers;
  - For batch waste, any variation in piece count,
- For Hazardous Waste of Concern as defined in 22 CCR 66261.111:
  - For bulk waste, variations greater than 3% in weight(volume);
  - For containerized waste, any variation in piece count.

In addition, if the waste is significantly different in composition from the information shown on the waste profile or pre-acceptance results, facility management must classify the waste as being in "non-conformance".

Waste discrepancies that do not fall within these criteria are considered to be "minor" and usually are not subject to a recharacterization review. If CWMI has reason to believe that the variation is a continuing deviation and that a particular waste stream indeed is different from its documented values, CWMI will obtain a recharacterization of the waste before any further shipments are accepted. Detection of a waste constituent that was not recorded on the waste profile or manifest would not necessarily trigger recharacterization of the waste stream if the discrepancy could be justified by the generator, was found to be a one-time anomaly, and all the above-mentioned guidelines were met.

4. Evaluation of Whether Waste Found to be in Non-Conformance Can Still be Accepted or Should be Rejected

Wastes found to be in non-conformance will be reevaluated for possible acceptance by the facility or will be rejected back to the generator or an an alternate TSDF at the direction of the generator. The reevaluation will be based on the following criteria:

- Permit authorization;
- Discussions with or information provided by the generator;
- Facility conditions;
- Facility management judgment; and
- Additional supplemental analysis, if required.

Pursuant to 40 CFR Part 264.72 and 22 CCR 66264.72, facility management must discuss and attempt to resolve with the generator any significant discrepancies between the actual waste and that shown on the manifest. If the shipment is accepted, the manifest is signed and the transporter is given their copies. Based on the information obtained from the generator regarding a non-conforming shipment, facility management/personnel will determine whether a profile revision is required or whether a new profile will need to be established by the generator. In the event the waste characterization of the non-conforming load is different than the initial waste characterization provided by the generator (e.g. Non-RCRA hazardous waste vs. RCRA hazardous waste), a new waste profile will be required. If the

waste discrepancy has no effect on the waste characterization a profile revision will be required. Physical state discrepancies due to rainwater infiltration that do not impact the waste characterization will not require a profile revision or a new profile.

If a discrepancy cannot be resolved within 15 days of shipment receipt, the facility will immediately submit to the California Department of Toxics Substance Control (DTSC), and EPA for TSCA regulated waste, a letter describing the discrepancy and of attempts to reconcile it, the letter will include a copy of the manifest or shipping paper at issue. For a discrepancy involving hazardous waste of concern, DTSC will be notified within 24 hours of discovery and provided with the information required in 22 CCR 66264.72(h).

The final decision to reject all or part of a waste shipment is made by facility management. Decisions are made as soon as the facility has collected and considered all of the applicable information listed above. The facility strives to complete these decisions as early as practicable, but circumstances which prevent sampling (for example, extreme weather) can cause delays in obtaining the information necessary to make an informed decision on the acceptability of the waste. Under such circumstances, the facility will take appropriate action to facilitate the decision process. During this time proper staging locations will be determined using pre-acceptance information. This information (for example, waste profiles, SDSs, etc.) will provide sufficient information to ensure proper staging.

If adequate information is available to determine that KHF can accept the waste, KHF will direct the waste to the appropriate treatment, storage, or disposal unit. If adequate information is not available for KHF to accept the waste, the waste will need to be staged or rejected. Waste that has not been accepted is staged using one of the following methods:

- The transport vehicle is parked on closed Landfill Unit B-15.
- The transport vehicle (e.g. trailer) is parked in the DSU loading/unloading bay or the container is placed inside a permitted unit with secondary containment (subject to waste compatibility determination).

For bulk wastes, the truck will be staged on closed Landfill Unit B-15 while resolution is in process. If by the end of day that the load was initially received, adequate information is not obtained to determine that KHF can accept the waste for treatment, storage, or disposal, a decision will be made to reject the load.

For containerized waste, the waste will either be left on the trailer or on the DSU, staged in Cell D, while information is gathered on the material. Containers pending additional information will be clearly labeled “Pending Resolution” and include the date the container was received and will be stored at the DSU based on compatibility determined by the screening analysis described If adequate information is not obtained within 45 days to determine that KHF can accept the waste for treatment, storage, or disposal, the waste will be rejected.

If a transporter has equipment failure or weather conditions prevents the safe off-loading of the waste, the truck and trailer may be staged on closed Landfill Unit B-15, BSU 2, or at the DSU until the issue is resolved. Some mechanical failures may cause the vehicle to be staged in Landfill B-18 or on a facility access road. When this occurs, efforts will be made to secure the waste so as not to interrupt facility operations and normal traffic flow. This includes, ensuring the waste is tarped or covered on the trailer and the vehicle is safely secured with

wheel chocks and traffic cones, if necessary. A mechanical or weather derived issue that would cause waste to be staged outside of permitted storage are typically resolved within 24 hours and should not exceed 96 hours.

A waste may be rejected for one of the following reasons:

- The generator's/transporter's paperwork is not in order;
- A manifest discrepancy or other non-conformance cannot be resolved to the generator's or CWMI's satisfaction;
- A bulk liquid shipment is incompatible (fails the liquid waste compatibility test) with waste stored in a bulk liquid storage tank and/or surface impoundment and no other management method is available;
- Adequate segregated space is not available at the container storage areas for containerized wastes and special handling cannot be used to correct the deficiency;
- Transporter equipment failures that prevent the unloading of the waste; or
- Inclement weather, or conditions caused by inclement weather, that prevent the safe off-loading of the waste.

12.6.0 PROCESS OPERATIONS PROCEDURES

After a waste has been treated at the facility, it may be subject to additional inspection, sampling, and analysis to determine appropriate handling and management of the waste. Many of the analyses performed during incoming shipment identification may be repeated post-treatment at this time. Periodic sampling and analyses also are important for facility storage, treatment, and disposal operations. The analytical procedures for each of these processes are described separately below.

12.6.1 Storage

Stored wastes are segregated with respect to compatibility. Also, liquid wastes that are transferred from drums, portable tanks, or tank trucks may be stored temporarily in bulk storage tanks. Before any wastes are placed in a storage unit, facility management will assess the compatibility of the waste with the storage unit materials of construction and with wastes already stored therein. If there is any suspicion of incompatibility, additional evaluation will be performed. Figure 12.6-1 shows the general analytical flow diagram for waste storage operations.

12.6.2 Waste Repacking/Bulking Operations

Wastes that are compatible and are of similar characteristics may be repackaged or bulked from smaller containers into larger containers to allow for efficient management on site, such as for direct landfill or stabilization, or for subsequent shipment to an offsite disposal facility. The general approach identifying the steps for these procedures can be found in Figure 12.6-2.

Examples of this operation include, but are not limited to: bulking the contents of smaller drums into larger drums (liquids or solids), bulking drums by transferring the contents (solids) into roll off containers, pumping the contents (liquids) into totes or tank trucks, transferring material from one container to another container (liquids or solids), and repacking of smaller containers into larger containers,. The bulking and repacking processes will occur at units of the facility where hazardous waste transfer is permitted.

Qualified site personnel will perform a drum group evaluation to determine what waste streams may be combined in order to proceed with any repacking or bulking operation. Only wastes with compatible physical, material, and chemical properties will be eligible for bulking prior to LDR treatment. Individual containers will be evaluated for materials that could potentially inhibit the stabilization process, i.e. containers with greater than 50% debris will be subject to the alternative debris standards in 22 CCR 66268.45.

Prior to co-mingling wastes it may be necessary to conduct a waste compatibility test to ensure that the wastes will not adversely react when combined. Table 12.3-2 contains information indicating when compatibility testing is required. In addition, some wastes would not require this test due to their nature, such as batteries, aerosol cans, light ballasts, lamps, etc. because compatibility can be readily discerned.

12.6.3 Treatment Operations

The proper and complete treatment of a particular waste depends on appropriate sampling and analysis during selected phases of the operation. Results of this analytical program serve to determine safety constraints, confirm treatment method selection, and identify the process

parameters. The treatment sampling and analysis program may be divided into three segments, each with a specific purpose:

- Pretreatment analyses confirm that the waste falls within the selected process design parameters and allow fine tuning of the process operational conditions for optimal treatment
- In-process analyses are performed to control the process and to monitor progress
- Post-treatment analyses will confirm successful treatment and that the process effluent can be sent to the next step (disposal or further treatment) based on permit or process constraints.

Treatment residuals resulting from on-site treatment of LDR waste, destined for land disposal, will be sampled and analyzed based on all applicable RCRA codes, Underlying Hazardous Constituents (UHCs), code group, analytical parameter or profile designation to demonstrate the treatment process is effective and complies with applicable LDR performance treatment standards in accordance with 40 CFR Part 268 and 22 CCR Chapter 18.

Restricted waste residues (treated/untreated) destined for off-site disposal including, but not limited to incineration, fuels, wastewater treatment, recycling, recovery, etc. will be analyzed and/or evaluated to properly identify regulated constituents in accordance with 40 CFR Part 268 and 22 CCR Chapter 18.

12.6.3.1 Bulk Container Top Solidification

On occasion, a non-LDR waste shipment of a solid material may arrive containing a minimal amount of free liquids. In this case, the liquids may be absorbed in situ via the application of clean soil, non-biodegradable absorbent, and/or flyash to the material in the bulk container. The absorbing material will be added using a loader or excavator within the Final Stabilization Unit. Post-treatment analysis consists of a Paint Filter Test to ensure no free liquids are present.

12.6.3.2 Container Top Solidification

On occasion, a non-LDR waste shipment of a solid material in containers, i.e. drums, may arrive containing a minimal amount of free liquids. In this case, the liquids may be absorbed in situ via the application of non-biodegradable absorbent to the material in the container. Container top solidification will occur at the Drum Storage Unit and/or the PCB Flushing/Storage Unit. Post-treatment analysis consists of a Paint Filter Test to ensure no free liquids are present.

12.6.3.3 Stabilization Unit

Stabilization is a process by which waste can be treated to remove free liquids, producing a mixture that has no free liquids and sufficient structural integrity for the landfill. In addition, stabilization can be used to treat (that is, reduce the mobility, immobilize, and/or reduce the toxicity of) certain inorganic components, including some LDR inorganic compounds.

In this process, the wastes are mixed with a stabilizing agent (for example, lime, cement, flyash, clean soil, absorbing agents, etc.) and/or suitable reagents (for example, ferrous sulfate, calcium polysulfide, etc.) that cause a chemical reaction producing a treated mixture suitable for land disposal. Ferrous sulfate monohydrate or heptahydrate product is used as a reducing agent that reacts with metals to form less mobile metal complexes. Ferrous sulfate is received in super sacks and bags. Calcium polysulfide reacts chemically with metals to form metal sulfide complexes that are less mobile and less prone to leaching. Calcium polysulfide is typically a 25

– 30% solution and is stored in an above ground tank on the south side of the FSU. Calcium polysulfide may also be received in totes and stored on the south side of the FSU. The general approach, shown in Figure 12.6-4, is implemented for each batch treatment.

An example of the forms used by the KHF for stabilization processes are shown in Figure 12.6-7.

12.6.3.3.1 Stabilization of Wastes Containing Free Liquids

In this process, wastes that are not LDR are treated solely to stabilize free liquids. Pretreatment analyses for these wastes consist of the basic mandatory analyses performed on incoming shipments. In addition, the stabilization evaluation test (SET), as described in Table 12.3-2, may be performed on a pre-acceptance sample to ensure the waste's amenability to stabilization and compatibility with appropriate reagents. If a SET has not previously been performed, either a SET will be conducted prior to treatment of the waste or a previously developed and established mix ratio and minimum mix time will be identified for use. Upon acceptance, the shipment is sent to the "Stabilization Unit" for stabilization. Post-treatment analysis consists of the Paint Filter Liquids Test to ensure no free liquids are present. In addition, supplemental analyses may be requested by facility management to further evaluate the suitability of the stabilized waste for landfill disposal.

Non-ignitable liquid wastes with PCBs < 500 ppm from incidental sources (e.g. as precipitation, condensation, leachate, or load separation) associated with PCB articles or non-liquid PCB wastes will be solidified at the FSU prior to disposal on site in a TSCA approved landfill or will be sent offsite to a TSCA permitted facility.

On occasion, a non-LDR waste shipment of an ordinarily solid material may arrive containing a minimal amount of free liquids. These types of "off-spec" solid waste shipments may be stabilized prior to land disposal, may have the free liquids absorbed or they may be rejected. If the off-spec shipment is to be stabilized, the following steps are taken. After performing the mandatory analyses on the incoming waste shipment sample, and other supplemental analyses requested by facility management, the off-spec solid waste shipment is unloaded into the Stabilization Unit. The waste is stabilized using an appropriate stabilizing agent. Post-treatment analysis consists of a Paint Filter Test to ensure no free liquids are present. In addition, supplemental analyses may be requested by facility management to further evaluate the stabilized waste.

12.6.3.3.2 Stabilization of Land Disposal Restricted (LDR) Wastes

In this process, certain LDR wastes are stabilized to meet the appropriate LDR treatment standard.

The pretreatment analyses for LDR waste to be stabilized to meet a particular stabilization treatment standard consist of the mandatory analyses performed on the incoming shipment. In addition, a portion of the pre-acceptance sample may be stabilized and then analyzed using the appropriate method to demonstrate that the LDR waste can be stabilized to meet the appropriate treatment standard and to establish the mix ratio and minimum mix time of reagent(s) to waste that is used as a guideline. If the stabilization evaluation is not performed on a pretreatment sample, a previously developed and established mix ratio and minimum mix time is identified for use. For LDR wastes, dilution alone is not used to achieve a treatment standard.

After acceptance, the LDR waste shipment is sent to the stabilization unit for stabilization. The mix ratio and minimum mix time previously established through the process above is used to stabilize each shipment of the LDR waste.

A post-treatment analysis program is conducted to assure that the process continues to be effective in meeting the treatment standards. The post-treatment analysis program is a profile-specific program, profiles are generator and waste stream specific, each individual profile is verified and tracked independently. The only exception is when a generator creates a new profile for the same waste, with no changes to the waste characteristics (RCRA codes, UHCs, pH, and physical state). In this instance the post-treatment history can transfer from the old profile to the new profile. All waste streams subject to post-treatment analysis, are categorized into one of three testing tiers:

Tier 1 – Batch Waste

For Tier 1 waste streams, post-treatment testing will be required for each stabilization batch. Batch waste includes:

- Waste from multiple generators/profiles composited for stabilization.
- Difficult to treat waste streams where a recipe has not been established that can meet the criteria of Tier 2.
- High variability waste streams where metals concentrations varies significantly from load to load.
- Discrepant loads where the pH is outside of the approved range.

Tier 2 – All Other Waste Streams (Profile Specific)

Tier 2 waste would be subject to the following testing program:

- Recipe (mix ratio and minimum mix time) is qualified on first three loads that the recipe is utilized, and all three loads meet the applicable treatment standards.
- After three consecutive loads pass, recipe effectiveness testing is completed quarterly, i.e. 90 days from the receipt of the last passing load (i.e. third load used to demonstrate recipe effectiveness).
- After four consecutive passing quarterly testing events, the waste stream/profile will be evaluated for a reduced testing frequency.
    - To be considered for a reduced frequency, the constituent concentration of the initial three loads and the four individual quarterly loads will be averaged and the average used to calculate a relative percent difference (RPD) between the average and the action level, i.e. applicable treatment standard. If the RPD is greater than or equal to 50% the testing frequency can be reduced to annually.
    - A reduced testing frequency will not exceed a minimum annual recipe effectiveness test.

Upon initial receipt of a waste stream, the initial shipments of the LDR waste will be stabilized, sampled, stored, and analyzed to demonstrate the treatment efficiency of the mix ratio and minimum mix time used for stabilization in accordance with their assigned testing tier. All shipments must be treated in the same manner, i.e. the same mix ratio used on all loads. During stabilization of the shipments subject to post-treatment analysis, facility personnel will record the amount of mixing time for each shipment. After the required number of consecutive post-treatment verification analyses of the stabilized LDR waste demonstrate the mix ratio and mix time is effective in meeting the treatment standards, the waste stream will be placed on a testing program as described in the appropriate tier. The minimum mix time for each profile will be established by determining the average mixing time per ton based on the mixing times for each of the shipments subject to post-treatment testing used to qualify the profile for the tiered testing program. For waste streams that are on the tiered testing program, should a generator notify the facility that a process generating the waste stream has changed, and/or the contaminate levels of the waste stream have changed significantly, the waste stream will need to restart the tiered treatment verification process. Post-treatment verifications demonstrating the mix ratio and minimum mix time is effective in meeting the treatment standards will be required, whether the mix ratio or minimum mix time has changed or not. If for any reason a new mix ratio or minimum mix time is developed for a waste stream that had a previously approved mix ratio or mix time, the new mix ratio and/or minimum mix time must restart the post-treatment verification process and the post-treatment verifications must demonstrate the new mix ratio and/or minimum mix time is effective in meeting the treatment standards before the waste stream can return to the tiered testing program.

LDR waste that is approved for stabilization may be composited prior to the stabilization process to optimize treatment volume. Each composited mixture of waste is considered a unique waste batch and will be subject to the Tier 1 post-treatment verification program. A determination of what wastes to be combined will be based on physical and chemical properties and applicable waste codes. When wastes with differing treatment standards for a constituent are combined for the purposes of stabilization, the treatment residues shall meet the most stringent applicable treatment standard for the constituent of concern.

In the event a post-treatment verification sample fails to meet the treatment standards, the facility will evaluate the cause of the failure and determine whether a new mix ratio and/or a new minimum mix time is required. Once a determination has been made, the waste stream will need to restart tiered post-treatment verification program demonstrating the mix ratio and/or minimum mix time is effective, whether the mix ratio and/or minimum mix time has changed or not.

The recipe (the mix ratio and minimum mix time) developed as described above is followed whenever treating subsequent shipments of the same waste stream (as defined by a waste profile). A sample of each KHF stabilized waste stream is tested during the re-evaluation period, as defined by the tiered testing program, to verify that the recipe continues to be effective.

12.6.3.3.3 Cyanide Treatment

In this process, certain LDR wastes require cyanide treatment to meet the specified technology of DEACT (Deactivation) for reactive cyanide and to meet the numerical treatment standard for other LDR waste requiring treatment for cyanide (i.e., F006 – F009 waste). If the waste also

requires stabilization for metals in addition to the treatment of cyanide, the treatment process must occur in a 2-step process.

The pretreatment analyses for LDR waste to be treated for cyanide consists of the mandatory analyses performed on the incoming shipment. Additionally, a mix ratio and minimum mix time to treat the cyanides below the treatment standard is developed using sodium hypochlorite. Once the mix ratio and minimum mix time for cyanide treatment has been established, if the waste requires stabilization for metals, additional reagents are used to treat the metals below the LDR standards.

For wastes only requiring treatment for cyanide (i.e., D003 waste), the waste is treated with a pre-established mix ratio of sodium hypochlorite. After adding the sodium hypochlorite, the waste is mixed to allow the reaction to occur. Prior to adding any additional reagents to solidify the waste, a sample is taken to the laboratory and analyzed by the appropriate analytical methods outlined in Table 12.3-2 to confirm whether the cyanide has been effectively treated. If the cyanide has not been effectively treated, additional amounts of sodium hypochlorite will be added and mixed in with the waste slurry, at which point a subsequent sample will be taken and submitted to the laboratory for analysis. After confirmation that the cyanide has been effectively treated to the applicable treatment standards, the waste will be stabilized to remove any free liquids. A post-treatment analysis consists of a Paint Filter Test.

Waste requiring treatment for cyanide and metals requires a 2-step process, similar to the procedures outlined above. Once the mix ratio and minimum mix time of reagents has been established, the waste may be processed at the FSU. The addition of sodium hypochlorite is the first step in the treatment process. The waste is mixed with the prescribed ratio of sodium hypochlorite and a sample is taken and submitted to the laboratory for analysis. No additional reagents will be added until the cyanide has been effectively treated to below the treatment standard. If the cyanide has not been effectively treated, additional amounts of sodium hypochlorite will be added and mixed in with the waste slurry, at which point a subsequent sample will be taken and submitted to the laboratory for analysis. After confirmation the cyanide has been effectively treated, the waste will be stabilized with the mix ratio and minimum mix time of other reagents required to treat the metals and to remove any free liquids. A sample of the stabilized material is taken and submitted to the laboratory for metals analysis. The treated material is stored on either BSU 1 or BSU 2 pending post-treatment verification analyses demonstrating the mix ratio and minimum mix time is effective in meeting the treatment standards for metals. See 12.6.3.3.2 for details on the post-treatment analysis program.

12.6.3.3.4 Sulfide Treatment

Wastes requiring deactivation for sulfides (i.e., D003) are treated in the stabilization unit. The pretreatment analyses for LDR waste to be treated for sulfide consist of the mandatory analyses performed on the incoming shipment. Treatment of sulfides typically involves stabilization with an appropriate reagent (cement, flyash, lime, etc.). For this reason, a 2-step process is not required. A portion of the pre-acceptance sample may be stabilized and then analyzed using the appropriate method to demonstrate that the LDR waste can be stabilized to meet the appropriate treatment standard and to establish the mix ratio and minimum mix time of reagent(s) to waste that is used as a guideline. If the stabilization evaluation is not performed on a pretreatment sample, a previously developed and established mix ratio and minimum mix time is identified for use.

The post-treatment protocols detailed in 12.6.3.3.2 are followed for sulfide treatment.

12.6.3.4 Hazardous Debris

In this process, hazardous debris, as defined in 40 CFR Part 268.2 and 22 CCR 66268.2, is treated by one or more of the specified technologies identified in 40 CFR Part 268.45 and 22 CCR 66268.45. KHF utilizes immobilization by micro-encapsulation and macro-encapsulation as effective alternative treatment technologies for debris, as defined in 66268.45 Table 1.

Pretreatment analysis consists of the visual inspection of the waste, conducted during the incoming shipment procedures, in order to confirm that the selected method of treatment is appropriate based on the components of the hazardous debris and the types of contaminants. This information will be used to determine if the waste will be a good candidate for shredding prior to micro-encapsulation. In addition, supplemental analyses may be performed at the request of facility management to further evaluate the waste for treatment. The general analytical approach for evaluating debris wastes is shown in Figure 12.6-3.

Post-treatment analysis consists of a visual inspection of the treated hazardous debris performed as necessary to confirm that the hazardous debris treatment technology conducted, has treated the waste to meet the designated performance and/or design and operating standards, and any contaminant restrictions identified in 40 CFR Part 268.45 and 22 CCR 66268.45.

12.6.3.5 PCB Draining, Flushing and Storage Unit

Wastes targeted for the PCB Flushing/Storage Unit are assumed to be contaminated with TSCA-regulated levels of PCBs and are not subject to sampling and analysis procedures. Liquid wastes from articles, are pumped into the PCB bulk tank or into appropriate containers for off-site treatment/destruction. Containerized liquids with PCBs < 500 ppm will be solidified at the FSU prior to disposal on-site in a TSCA-approved landfill or the containers will be sent off-site to a TSCA permitted facility. PCB solids and the drained PCB articles and containers are buried on-site in a TSCA-approved landfill or sent off-site to a TSCA permitted facility for disposal. The solvents used to flush PCB articles also are pumped to the PCB bulk tank for off-site treatment/destruction.

12.6.3.6 Solar Evaporation

Aqueous wastes accepted for solar evaporation at the KHF are limited to less than 10,000 ppm (1%) total organic carbon and less than 1,000 ppm halogenated organics as described in the applicable sections of the Operation Plan or as limited by compliance requirements with Title V of the Clean Air Act, Subpart CC of 40 CFR 264, and 22 CCR, Div. 4.5, Chapter 14, Article 28.5. The general analytical approach for evaluating wastes that are treated by solar evaporation is shown in Figure 12.6-5. Mandatory pretreatment evaluations are performed to screen out wastes that are not acceptable for solar evaporation units (for example, those containing "reactive" levels of sulfides and free cyanides). In addition, a Commingled Waste Compatibility Test (CWCT) may be performed, as necessary, to evaluate the compatibility of the incoming waste with the waste already contained in the treatment system. Wastes also are examined for the presence of visible oil and grease. Finally, wastes are not accepted in surface impoundments unless they comply with regulatory LDRs.

12.6.4 Final Disposal

The general approach shown in Figure 12.6-6 in Appendix WAP-A ensures the proper management of hazardous wastes that are disposed of by secure landfilling. A test may be performed to confirm the absence of free liquids. Any semi-solid and/or sludge waste with suspected free liquids based on visual inspection of the incoming shipment, that is not treated by solidification, will be tested for the presence of free liquids prior to disposal. In addition, any waste shipment involved in a release of liquids, i.e. liquid spill, while at the facility will be tested for the presence of free liquids, and/or be subject to solidification, prior to disposal. All waste shipments that have been solidified, including bulk container and container top solidification will be tested to confirm the absence of free liquids prior to disposal. Other tests may confirm that the wastes to be landfilled are not restricted by State and/or Federal regulations. As required by 40 CFR 268 and/or 22 CCR 66268, the generator may be required to certify that his/her waste complies with regulatory LDRs.

12.7.0 QUALITY ASSURANCE/QUALITY CONTROL

The following quality assurance/quality control (QA/QC or "quality") information for this facility is being provided as required by 40 CFR Part 270.30(e) and 22 CCR 66270.30(e) and in accordance with the following EPA guidance documents:

- Handbook for Analytical Quality Control in Water and Wastewater Laboratories, EPA 600/4-79-019, March 1979, U.S. Environmental Protection Agency (U.S. EPA), Environmental Monitoring and Support Laboratory (EMSL), Cincinnati, OH, March 1979 (available from EMSL, Cincinnati, OH 45268).
- Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, SW-846, Third Edition(November, 1986), as amended by Updates I (July 1992), II (September, 1994), IIA (August, 1993), IIB (January, 1995), and III (December 1996)]. U.S. EPA, Office of Solid Waste, Washington, DC, Chapter One (available from Superintendent of Documents, Government Printing Office, Washington, DC 20402).

Quality procedures are applicable to both sampling procedures and analytical techniques. This section does not provide specific performance standards of quality control procedures for individual sampling and analysis techniques. Such specifics are defined on a corporate-wide basis for all company facilities. The specific performance standards are dynamic and are revised as warranted to reflect technological advances in sampling and analytical techniques. These performance standards are described in corporate policies, which are maintained and used at this facility and which are available for regulatory review. Portions of these policies have been summarized in the following sections.

12.7.1 Sampling Program

Sampling procedures for facility operations are described in Section 12.2.0 of the WAP. The selection of the sample collection device depends on the type of sample, the sample container, the sampling location and the nature and distribution of the waste components. In general, the methodologies used for specific materials correspond to those referenced in 40 CFR Part 261, Appendix I, and 22 CCR 66261, Appendix I. The selection and use of the sampling device is supervised or performed by a person thoroughly familiar with the sampling requirements.

Sampling equipment is constructed of nonreactive materials such as glass, PVC plastic, aluminum, or stainless steel. Care is taken in the selection of the sampling device to prevent contamination of the sample and to ensure compatibility of materials. For example, glass bottles are not used to collect hydrofluoric acid wastes.

With some exceptions (see Section 12.5.1.1 of this WAP), bulk and containerized waste shipments are sampled. Individual container samples may be composited prior to analysis, provided that individual samples are compatible.

12.7.2 Analytical Program

CWMI has developed a quality program of analytical quality control practices and procedures and review to ensure that precision and accuracy are maintained. Noncompany laboratories employed by the company demonstrate quality control practices that are comparable to the company's program.

The quality control program is based on EPA's Handbook for Analytical Quality Control in Water and Wastewater Laboratories. Good laboratory practices which encompass sampling, sample handling, housekeeping and safety are maintained at all laboratories.

12.7.3 Conclusion

The aforementioned sampling and analytical quality practices help ensure that the data obtained are precise and accurate for the waste stream being sampled. The analytical results are used by facility management to decide whether or not to accept a particular waste and, upon acceptance, to determine the appropriate method of treatment, storage, and disposal. Results are also important to ensure that wastes are managed properly by the facility and that incompatible wastes are not inadvertently combined. Just as these results are important so is the quality of these results. Thus, the quality of the analytical data, the thoroughness and care with which the sampling and analyses are performed and reported, provides an important basis for day-to-day operational decisions.

APPENDIX WAP-A

TABLES AND FIGURES

TABLE 12.2-1
SAMPLING METHODS AND EQUIPMENT

Material	Method[*†]	Equipment
Extremely viscous liquid	ASTM D140 ASTM E300 ASTM D5495	Tubing, trier or coliwasa
Crushed or powdered material	ASTM D346 ASTM E300 ASTM D5633 ASTM D5451	Tubing, trier, scoop, or shovel
Soil or rock-like material	ASTM D420 ASTM E300 ASTM D5633 ASTM D5451	Tubing, trier, auger, scoop, or shovel
Soil-like material	ASTM D1452 ASTM E300 ASTM D5633 ASTM D5451	Tubing, trier, auger, scoop, or shovel
Fly ash-like material	ASTM D2234 ASTM E300 ASTM D5633 ASTM D5451	Tubing, trier, auger, scoop, or shovel
Containerized liquids	SW-846, Chapter 9, § 9.2.2.4 ASTM E300 ASTM D5495	Coliwasa or tubing, bomb sampler, weighted bottle
Liquids in impoundments	SW-846, Chapter 9, § 9.2.2.4 ASTM D5358 ASTM D4136	Bomb sampler, tubing, weighted bottle, and/or dipper sampler

[*] ASTM refers to Annual Book of ASTM Standards, American Society for Testing Materials, Philadelphia, PA, 1994 or most recent edition. SW-846 refers to Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, SW-846, Third Edition, U.S. Environmental Protection Agency, Office of Solid Waste, Washington, DC, September 1986, as amended by Final Update I (July 1992), Final Update II (September 1994), Final Update IIA (August 1993), and Final Update IIB (January 1995), and Final Update III (December 1996), or more recent edition or update.

[†] Methods and standards used on-site at the KHF will be maintained in electronic and/or hard copy files and are readily accessible.

TABLE 12.3-1
Mandatory Analytical Procedures[1,2]

Parameter	Method	Reference	Identification		Pretreatment, In-Process or Post-Treatment Applicability						
			Pre-Acceptance	Incoming Waste	Storage	Bulking	Stabilization	PCB Flushing/ Storage	Solar Evaporation	Hazardous Debris	Final Disposal (Landfill)
Physical Description determines the general physical properties of the waste. These properties facilitate subjective comparison of the sampled waste with prior waste descriptions. Also, it is used to verify the observable presence or absence of free liquids. Viscous, adhesive or cohesive material due to the presence of moisture that cannot be visually observed as free-flowing is tested for free liquids.	D4979	A	M	I	O	O, R*	O		O		
Flammability potential screen indicates the fire-sustaining potential of the waste. This test can be applied to all waste liquids, solids, and semi-solids.	D4982	A	M	I	O	O, R*	O		O		
Water Compatibility determines whether the waste has a potential to react vigorously (for example, bubbling, spattering, or fuming) with water to form gases or other products, or to generate significant heat, and to determine its apparent solubility in water. Significant temperature change; i.e. delta T > 25°F, requires notation of special handling on applicable waste treatment forms. This test does not apply to wastes that already are in contact with excess water (50% by volume), nor to wastes that are known to be water reactive.	D5058C	A	M	I	O	O, R*	O		O		
Oxidizer Screen - used to indicate the oxidizing potential of a waste.	D4981	A	M	I	O	O, R*	O		O		
pH Screen indicates generally the pH and corrosive nature of an aqueous waste. pH screening may not apply to certain wastes (for example, organic solvent waste, oily waste, or insoluble solid waste).	9040B, 9041A, 9045C	A	M	I	O	O, R*			O		
Sulfide Screen indicates whether the waste has the potential to produce hydrogen sulfide upon acidification below pH 2. This screen is not required if the pH is less than 2 (as defined in 40 CFR Part 261.23(a)(5) and 22 CCR 66261.23(a)(5)) or if the material is organic.	D4978	A	M	I	O	O, R*	O		O		
Cyanide Screen indicates whether the waste has the potential to produce hydrogen cyanide upon acidification below pH 2. This screen is not required if the pH is less than 2 (as defined in 40 CFR Part 261.23(a)(5) and 22 CCR 66261.23(a)(5)) or if the material is organic.	D5049[3]	A	M	I	O	O, R*	O		O		

References:

A. Annual Book of ASTM Standards, American Society for Testing and Materials (ASTM), 1993, or more recent edition or revision (available from 1916 Race Street, Philadelphia, PA 19013).

[1] The analytical procedures presented in this table are designed to identify or screen waste and are used by CWM, based upon its operating experience, as rapid but effective means for establishing key decision parameters pertinent to proper waste management. Analytical procedures, not listed in the table, may be added as necessary and will be taken from the references listed at the end of this table or other authoritative sources, e.g., Association of Official Analytical Chemists (AOAC), 15th Edition, AOAC, Arlington, Virginia, 1990, or more recent supplements or editions (available from AOAC, 2200 Wilson Blvd., Suite 400, Arlington, VA 22201) or will be developed by CWM and meet CWM performance standards.

[2] Methods and standards used on-site at the KHF will be maintained in electronic and/or hard copy files and are readily accessible.

[3] ASTM D5049 is used as a line of evidence for determining reactivity, however the test cannot be used as a dispositive test for establishing the criteria in 22 CCR 66261.23 are present.

Notes:
M = Mandatory, test must be conducted on pre-acceptance and incoming shipment samples in order to further identify a waste shipment as corresponding to a waste manifest and a waste profile. Mandatory analyses may be performed to confirm the pre-acceptance paperwork information.
I = Mandatory for initial load, subsequent loads tested if inspection or paperwork suspect. When more than one load of waste is received from one profile, all shipments are visually inspected and at least 10% of the shipments received on a daily basis, are sampled and analyzed.
O = Optional, test may be conducted to identify waste characteristics needed for processes.
R* = If different waste streams, i.e. multiple profiles, are being bulked, screen is required on a bench-scale composite sample prior to release for bulking.

TABLE 12.3-2
Supplemental Analytical Procedures[1,2]

Parameter	Method	Reference	Identification		Pretreatment, In-Process or Post-Treatment Applicability						
			Pre-Acceptance	Incoming Waste	Storage	Bulking	Stabilization	PCB Flushing/ Storage	Solar Evaporation	Hazardous Debris	Final Disposal (Landfill)
Toxicity Characteristic Leaching Procedure (TCLP) determines whether a waste or a treated waste residue contains concentrations of restricted constituents above appropriate treatment standards.	1311	1	O	O	O	O	O	O	O		O
Waste Extraction Test (WET) Procedures determines whether a waste or a treated waste residue contains concentrations of restricted constituents above appropriate treatment standards.		6	O	O	O	O	O	O	O		O
Total Mass Analysis for Metals (Totals) determines whether a waste or a treated waste residue contains concentrations of restricted constituents above appropriate treatment standards	6010B, 6020	1	O	O	O	O	O	O	O		O
Gas Chromatography Methods–PCBs indicate whether PCBs are present in oil-bearing liquid wastes and to ascertain their concentration. An oil-bearing liquid is defined as liquid containing a visible oil phase separation.	8082, 8082A	1, 5	O	O	O	O	O	O	O		
Gas Chromatography/Mass Spectroscopy Methods for VOCs – determines whether a waste or a treated waste residue contains concentrations of restricted volatile organic constituents above appropriate standards.	8260B, 8015B, 8021B, 8011,	1	O	O	O	O	O	O	O		O
Gas Chromatography/Mass Spectroscopy Methods for SVOCs – determines whether a waste or a treated waste residue contains concentrations of restricted semi-volatile organic constituents above appropriate standards.	8270C, 8015B, 8410,	1	O	O	O	O	O	O	O		O
Commingled Waste Compatibility determines whether wastes are compatible and can be stored or processed together. Utilizing a thermometer, heat change is recorded; a significant temperature change; i.e. delta T > 25°F, requires notation of special handling on applicable waste treatment forms.	D5058-12 (Practice A)	3	O	O	O	O, R*	O, R*	O	M, R*		
Paint Filter Test indicates if free liquids are present in solid or semi-solid material.	9095B	1	O	O	O	O	O	O	O		O
Density measurements are made to measure the quantity of bulk liquids received.	D5057-17	3	O	O	O	O	O	O	O		
PCBs Screen for the presence of PCBs	4020, 9078	1	O	O	O	O	O	O	O		O
Cyanides (total and amenable) to chlorination quantifies the concentration of all unbound and most complexed cyanides (total cyanides) and/or cyanide species amenable to alkaline chlorination (amenable cyanides). Results may be used for treatability determinations, to monitor treatment processes, and/or to meet disposal restrictions including LDRs.	9010C, 9012A, 9013A, 9014	1	O	O	O	O	O	O	O		O
Flash Point – Pensky Martens closed cup method. Further characterizes ignitable wastes to establish proper storage methods and conformance with permit conditions. A closed cup is used for liquids.	1010A, D93-80	1,3	O	O	O	O	O	O	O		O
Stabilization Evaluation - The waste to be stabilized is mixed with at least one combination of cement kiln dust, flyash, and/or other suitable reagent(s) and ratios previously determined by the laboratory. Utilizing a thermometer, heat change (as evidence of curing), is recorded as the waste/ reagent(s) mixture is "setting". The occurrence of any violent reactions of reagent(s) to waste sample is noted.			O	O	O	O	O				

References:

1. Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, SW-846, Third Edition, U.S. Environmental Protection Agency, Office of Solid Waste, Washington, DC, September 1986, as amended by Final Update I (July 1992), Final Update II (September 1994), Final Update IIA (August 1993), Final Update IIB (January 1995), and Final Update III (December 1996), or more recent edition, update or revision.
2. Standard Methods for the Examination of Water and Wastewater, 18th Edition, American Public Health Association (APHA), American Water Works Association, Water Environment Federation, 1992, or more recent edition or update (available from APHA, 1015 Fifteenth Street, NW, Washington, DC 20005).
3. Annual Book of ASTM Standards, American Society for Testing and Materials (ASTM), 1993, or more recent edition or revision (available from 1916 Race Street, Philadelphia, PA 19013).
4. Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, U.S. Environmental Protection Agency, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio, 1979, as revised March 1983, or more recent revision or technical addition (available from EPA, Cincinnati, OH 45268).
5. Bellar, T.A., and Lichtenberg, J.J., "The Determination of Polychlorinated Biphenyls in Transformer Fluid and Waste Oils", EPA-600/4-81-045, U.S. Environmental Protection Agency, Environmental Monitoring and Support Laboratory, Cincinnati, 1982.
6. "Waste Extraction Test (WET) Procedures", State of California Environmental Health Standards -- Hazardous Waste regulations, 22 CCR 66261, Chapter 11, Article 5, Appendix II.

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[1] The analytical procedures presented in this table are designed to identify or screen waste and are used by CWM, based upon its operating experience, as rapid but effective means for establishing key decision parameters pertinent to proper waste management. Analytical procedures, not listed in the table, may be added as necessary and will be taken from the references listed at the end of this table or other authoritative sources, e.g., Association of Official Analytical Chemists (AOAC), 15th Edition, AOAC, Arlington, Virginia, 1990, or more recent supplements or editions (available from AOAC, 2200 Wilson Blvd., Suite 400, Arlington, VA 22201) or will be developed by CWM and meet CWM performance standards.

[2] Methods and standards used on-site at the KHF will be maintained in electronic and/or hard copy files and are readily accessible.

Notes:
*Modified methods are on file at the facility in the current methods manual.
M = Mandatory for all incoming shipments of off-site waste streams and for the sample taken from onsite waste approved for transfer.
O = Optional, test may be conducted to identify waste characteristics needed for processes.
R* = Required if different waste streams, i.e. multiple profiles, are being mixed together for processing.

TABLE 12.3-3
Additional Analytical Procedures[1,2]

Parameter	Method	Reference
Metals Acid Digestions for flame atomic absorption spectroscopy (AAS) or inductively coupled plasma spectroscopy (ICP)	3005A, 3010A*	1
Metals Acid Digestions Microwave assisted - A portion of sample is weighed into an appropriate microwave digestion vessel and digested using an acid or acid mixture. The vessel is heated in a microwave oven. After cooling, the contents are diluted to volume, filtered and analyzed by appropriate methods.	3015A, 3051A; D4309-18, D5258-02(2013)	1, 2, 3
Separatory funnel liquid-liquid extraction	3510C	1
Continuous liquid-liquid extraction	3520C	1
Solid phase extraction (SPE)	3535A	1
Soxhlet extraction	3540C, 3541	1
Sonication extraction	3550C	1
Waste dilution	3580A, 3585	1
Alumina cleanup	3610B, 3611B	1
Florisil cleanup	3620C	1
Silica gel cleanup	3630C	1
Gel-permeation cleanup	3640A	1
Acid-base partition cleanup	3650B	1
Sulfur cleanup	3660B	1
Sulfuric acid/permanganate cleanup	3665A	1
Elemental Analytical Method - Inductively Coupled Plasma atomic emission spectroscopy (ICP)	6010B, 6010D	1
Elemental Analytical Method - Inductively Coupled Plasma Mass Spectroscopy (ICPMS)	6020, 6020B	1
Mercury (manual cold/vapor technique) In liquid waste	7470A*, 6020A, 6020B	1
Mercury (manual cold/vapor technique) In solid or semi/solid waste	7471A, 7471B*	1
Gas Chromatography Methods - Polychlorinated Biphenyls (PCBs)	8082,8082A	1
Gas Chromatography/Mass Spectroscopy Methods separates and identifies VOCs	8260B; 8260D, 624	1, 5
Gas Chromatography/Mass Spectroscopy Methods separates and identifies SVOCs	8270C; 8270E, 625	1, 5
Residual Chlorine	4500CL	2
Conductivity/conductance	9050A, 2510B, D1125-14, 120.1	1, 2, 3, 4
Dissociable cyanides	9213, 4500CN^-I	1, 2
Soluble Cyanides determines the concentration of soluble cyanides	4500CN^-C, G, 335.1	2, 4
Total conversion amenable cyanides		7
Flash Point - Setaflash closed-cup method	1020A, 1020B, D3278-96(2011)	1, 3
Flash Point - Cleveland open-cup method	D92-18	3
Flash Point - Pensky-Martens Closed Cup	1010*, 1010A; D93-80	1, 3
Percent Acidity	2310B	2
Percent Alkalinity	2320B	2
pH measurements	9040B, 9040C, 9041A, 9045C, 9045D, 4500H^+, E70-01(2015), 150.1	1, 2, 3, 4
Specific Gravity	2710F, D70-18a, D891-18, D1217-15, D1429-13, D5057-17	2, 3
Extractable sulfides	9031	1
Soluble sulfides	9215, 4500S^{2-}, 376.2	1, 2, 4
Total sulfides	9030B, 9034, 4500S^{2-}	1, 2
Water Content	D95-13(2018)*, D3173M-17a, D4006-16e1, E203-16	3
California Percent Moisture Test California Code of Regulations Title 22: 66264.318(2)		
DOT Oxidizer Test		8
Beilstein Screen - indicate the presence of halogenated organics in aqueous and organic wastes. Consists of heating a copper wire in a flame until it is red hot, then dipping the wire into a portion of the sample and reheating the wire in a flame. The presence of a green flame during the reheating of the wire is considered positive and indicates the presence of halogens in the sample.		
Quick Leach Extraction - An amount of sample is mixed with the appropriate extraction fluid and stirred for a designated period. After filtration, the pH and/or metals content are determined using the appropriate methods.		
Radioactivity Screen - A sample of the material is passed by a geiger counter or survey meter. Radioactivity levels above background are noted, recorded and investigated.		
Reagent Compatibility Screen - Equal portions of stabilization reagent and waste are mixed. The generation of any unacceptable or adverse reactions are evaluated and noted.		
Dissolved Sulfides - An aliquot of waste is mixed with distilled water. The solution/slurry is filtered through filter paper and the resultant filtrate is then analyzed for sulfide. Iodine and hydrochloric acid are added and colorimetric titration using sodium thiosulfate is used to determine a concentration.		
Soluble Sulfides - A waste sample is diluted with distilled water and stirred. The resultant mixture is then analyzed using the total sulfide procedure.		

References:

1. Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, SW-846, Third Edition, U.S. Environmental Protection Agency, Office of Solid Waste, Washington, DC, September 1986, as amended by Final Update I (July 1992), Final Update II (September 1994), Final Update IIA (August 1993), and Final Update IIB (January 1995), Final Update III (December 1996) or more recent edition, update or revision(available from Superintendent of Documents, Government Printing Office, Washington, DC 20402).
2. Standard Methods for the Examination of Water and Wastewater, 22nd Edition, American Public Health Association (APHA), American Water Works Association, Water Environment Federation, 2012, or more recent edition or update (available from APHA, 1015 Fifteenth Street, NW, Washington, DC 20005).
3. Annual Book of ASTM Standards, American Society for Testing and Materials (ASTM), 1993, or more recent edition or revision (available from 1916 Race Street, Philadelphia, PA 19013).
4. Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, U.S. Environmental Protection Agency, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio, 1979, as revised March 1983, or more recent revision or technical addition (available from EPA, Cincinnati, OH 45268).
5. Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater. Title 40, Part 136, Appendix A, Code of Federal Regulations, U.S. Environmental Protection Agency, Environmental Monitoring and Support Laboratory/Cincinnati, as amended June 1986, or more recent revisions (available from Superintendent of Documents, Government Printing Office, Washington, DC 20402).
6. Bellar, T.A., and Lichtenberg, J.J., "The Determination of Polychlorinated Biphenyls in Transformer Fluid and Waste Oils", EPA-600/4-81-045, U.S. Environmental Protection Agency, Environmental Monitoring and Support Laboratory, Cincinnati, 1982.
7. Methods and Procedures for the Analysis of Simple Cyanides, Total Cyanides, and Thiocyanates in Water and Wastewater. EPA 600/4-83-054. U.S. Environmental Protection Agency, Environmental Monitoring and Support Laboratory (EMSL), Cincinnati, October 1983, or more recent edition.
8. U.S. Department of Transportation (DOT) test for the presence of oxidizers: Dangerous Goods Special Bulletin, TD2711E, 155W0710-0914, Canadian Transport Agency, April 1987.

Notes:
*Modified methods are on file at the facility in the current methods manual.

[1] The analytical procedures presented in this table are designed to identify or screen waste and are used by CWM, based upon its operating experience, as rapid but effective means for establishing key decision parameters pertinent to proper waste management. Analytical procedures, not listed in the table, may be added as necessary and will be taken from the references listed at the end of this table or other authoritative sources, e.g., Association of Official Analytical Chemists (AOAC), 15th Edition, AOAC, Arlington, Virginia, 1990, or more recent supplements or editions (available from AOAC, 2200 Wilson Blvd., Suite 400, Arlington, VA 22201) or will be developed by CWM and meet CWM performance standards.

[2] Methods and standards used on-site at the KHF will be maintained in electronic and/or hard copy files and are readily accessible.

TABLE 12.5-1
Waste Analysis Plan Exemption Numbers

WAP Exemption Number	Exception Type
1	Lab packs including, but not limited to, discarded containers of laboratory chemicals or waste that are packaged in sealed, non-leaking, small inner containers, which are then overpacked into drums. Drums destined to be placed in the landfill must be packaged in accordance with 40 CFR Part 264.316 and 22 CCR 66264.316.
2	"Empty" containers (as defined by 40 CFR Part 261.7 and 22 CCR 66261.7).
3	Asbestos-containing waste.
4	Beryllium-containing waste (for example, from machining operations).
5	Articles, equipment, containers, debris, solids, or liquids contaminated with PCBs.
6	Non-infectious waste from a hospital, medical facility, nursing home, veterinary hospital, or animal testing laboratory
7	Commercial products or chemicals: off-specification, outdated, unused, contaminated or banned. This also includes products voluntarily removed from the market place by a manufacturer or distributor, in response to allegations of adverse health effects associated with product use
8	Debris as defined in 40 CFR Part 268.2 or 22 CCR 66268.2. These materials will be visually inspected after receipt but before shipment acceptance (see Section 5.1) in order to ensure that the waste meets the definition of debris.
	Contaminated personal protective equipment (PPE) - This includes but is not limited to gloves, tyveks, respirator cartridges, clothing, etc.
	Waste produced from the demolition, dismantling, or renovation of industrial process equipment or facilities. These may include equipment and/or building materials contaminated with chemicals used in the industrial process.
9	Non-Hazardous Material
10	Waste from a remedial project in which the sampling and analysis plan was approved by a federal or state agency (for example, CERCLA or state equivalent or a project funded by one or more potentially responsible parties).
11	CWMI site-generated waste, unless otherwise it is required. The site-generated wastes include rainwater from collection sumps, rainwater from trenches, spill clean-ups, etc.
12	Controlled substances regulated by the Federal Government including illegal drugs and/or materials from clandestine labs.
13	Single substance contaminant.
14	Wastes, which are visually identifiable through an inspection process. Examples include cathode ray tubes, batteries, fluorescent light tubes, filters and filter cartridges, wire or tubing, paper products, metal sheeting and parts, crushed glass, piping, etc.
15	Pre-acceptance information is sufficient to ensure compliance with permit conditions and operational constraints of the treatment process; and any one of the following conditions exist: • Obtaining a sample poses an unnecessary hazard of acute or chronic exposure of CWMI employees to carcinogenic, mutagenic, neoplastigenic, teratogenic, or sensitizing materials; or • The material may react violently with air or moisture; or • The material's odor poses a public nuisance when sampled; or • A sample cannot be reasonably obtained, such as filter cartridges, large pieces of contaminated material, or contaminated debris

Figure 12.4-1

Example Profile Form

WASTE MANAGEMENT

EZ Profile™

Requested Facility: _____ ❑ Unsure Profile Number: _____

❑ Multiple Generator Locations (Attach Locations) ❑ Request Certificate of Disposal ❑ Renewal? Original Profile Number: _____

A. GENERATOR INFORMATION (MATERIAL ORIGIN)

1. Generator Name: _____
2. Site Address: _____
   (City, State, ZIP) _____
3. County: _____
4. Contact Name: _____
5. Email: _____
6. Phone: _____ 7. Fax: _____
8. Generator EPA ID: _____ ❑ N/A
9. State ID: _____ ❑ N/A

B. BILLING INFORMATION ❑ SAME AS GENERATOR

1. Billing Name: _____
2. Billing Address: _____
   (City, State, ZIP) _____
3. Contact Name: _____
4. Email: _____
5. Phone: _____ 6. Fax: _____
7. WM Hauled? ❑ Yes ❑ No
8. P.O. Number: _____
9. Payment Method: ❑ Credit Account ❑ Cash ❑ Credit Card

C. MATERIAL INFORMATION

1. Common Name: _____
   Describe Process Generating Material: ❑ See Attached

2. Material Composition and Contaminants: ❑ See Attached

1.	
2.	
3.	
4.	
Total comp. must be equal to or greater than 100%	≥100%

3. State Waste Codes: _____ ❑ N/A
4. Color: _____
5. Physical State at 70˚F: ❑ Solid ❑ Liquid ❑ Other: _____
6. Free Liquid Range Percentage: _____ to _____ ❑ N/A
7. pH: _____ to _____ ❑ N/A
8. Strong Odor: ❑ Yes ❑ No Describe: _____
9. Flash Point: ❑ <140˚F ❑ 140˚–199˚F ❑ ≥200˚ ❑ N/A

D. REGULATORY INFORMATION

1. EPA Hazardous Waste? ❑ Yes* ❑ No
   Code: _____
2. State Hazardous Waste? ❑ Yes ❑ No
   Code: _____
3. Is this material non-hazardous due to Treatment, Delisting, or an Exclusion? ❑ Yes* ❑ No
4. Contains Underlying Hazardous Constituents? ❑ Yes* ❑ No
5. From an industry regulated under Benzene NESHAP? ❑ Yes* ❑ No
6. Facility remediation subject to 40 CFR 63 GGGGG? ❑ Yes* ❑ No
7. CERCLA or State-mandated clean-up? ❑ Yes* ❑ No
8. NRC or State-regulated radioactive or NORM waste? ❑ Yes* ❑ No

***If Yes, see Addendum (page 2) for additional questions and space.**

9. Contains PCBs? → If Yes, answer a, b and c. ❑ Yes ❑ No
   a. Regulated by 40 CFR 761? ❑ Yes ❑ No
   b. Remediation under 40 CFR 761.61 (a)? ❑ Yes ❑ No
   c. Were PCB imported into the US? ❑ Yes ❑ No
10. Regulated and/or Untreated Medical/Infectious Waste? ❑ Yes ❑ No
11. Contains Asbestos? ❑ Yes ❑ No
    → If Yes: ❑ Non-Friable ❑ Non-Friable – Regulated ❑ Friable

E. ANALYTICAL AND OTHER REPRESENTATIVE INFORMATION

1. Analytical attached ❑ Yes
   Please identify applicable samples and/or lab reports:
2. Other information attached (such as MSDS)? ❑ Yes

F. SHIPPING AND DOT INFORMATION

1. ❑ One-Time Event ❑ Repeat Event/Ongoing Business
2. Estimated Quantity/Unit of Measure: _____
   ❑ Tons ❑ Yards ❑ Drums ❑ Gallons ❑ Other: _____
3. Container Type and Size: _____
4. USDOT Proper Shipping Name: ❑ N/A

G. GENERATOR CERTIFICATION (PLEASE READ AND CERTIFY BY SIGNATURE)

By signing this EZ Profile™ form, I hereby certify that all information submitted in this and all attached documents contain true and accurate descriptions of this material, and that all relevant information necessary for proper material characterization and to identify known and suspected hazards has been provided. Any analytical data attached was derived from a sample that is representative as defined in 40 CFR 261 - Appendix 1 or by using an equivalent method. All changes occurring in the character of the material (i.e., changes in the process or new analytical) will be identified by the Generator and be disclosed to Waste Management prior to providing the material to Waste Management.

If I am an agent signing on behalf of the Generator, I have confirmed with the Generator that information contained in this Profile is accurate and complete.

Name (Print): _____ Date: _____

Title: _____

Company: _____

Certification Signature

THINK GREEN.®

QUESTIONS? CALL 800 963 4776 FOR ASSISTANCE

Revised June 30, 2015

Figure 4.1

EZ Profile™ Addendum

Only complete this Addendum if prompted by responses on EZ Profile™ (page 1) or to provide additional information. Sections and question numbers correspond to EZ Profile™.

Profile Number: _____

C. MATERIAL INFORMATION

Describe Process Generating Material (Continued from page 1): If more space is needed, please attach additional pages.

Material Composition and Contaminants (Continued from page 1): If more space is needed, please attach additional pages.

5.	
6.	
7.	
8.	
9.	
Total composition must be equal to or greater than 100%	≥100%

D. REGULATORY INFORMATION

Only questions with a "Yes" response in Section D on the EZ Profile™ form (page 1) need to be answered here.

1. EPA Hazardous Waste
   a. Please list all USEPA listed and characteristic waste code numbers:

   b. Is the material subject to the Alternative Debris standards (40 CFR 268.45)? ❑ Yes ❑ No
   c. Is the material subject to the Alternative Soil standards (40 CFR 268.49)? → If Yes, complete question 4. ❑ Yes ❑ No
   d. Is the material exempt from Subpart CC Controls (40 CFR 264.1083)? ❑ Yes ❑ No
      → If Yes, please check **one** of the following:
      ❑ Waste meets LDR or treatment exemptions for organics (40 CFR 264.1082(c)(2) or (c)(4))
      ❑ Waste contains VOCs that average <500 ppmw (CFR 264.1082(c)(1)) – will require annual update.
2. State Hazardous Waste → Please list all state waste codes: _____
3. For material that is Treated, Delisted, or Excluded → Please indicate the category, below:
   ❑ Delisted Hazardous Waste ❑ Excluded Waste under 40 CFR 261.4 → Specify Exclusion: _____
   ❑ Treated Hazardous Waste Debris ❑ Treated Characteristic Hazardous Waste → If checked, complete question 4.
4. Underlying Hazardous Constituents → Please list all Underlying Hazardous Constituents:

5. Industries regulated under Benzene NESHAP include petroleum refineries, chemical manufacturing plants, coke by-product recovery plants, and TSDFs.
   a. Are you a TSDF? → If yes, please complete Benzene NESHAP questionnaire. If not, continue. ❑ Yes ❑ No
   b. Does this material contain benzene? ❑ Yes ❑ No
      1. If yes, what is the flow weighted average concentration? _____ ppmw
   c. What is your facility's current total annual benzene quantity in Megagrams? ❑ <1 Mg ❑ 1–9.99 Mg ❑ ≥10 Mg
   d. Is this waste soil from a remediation? ❑ Yes ❑ No
      1. If yes, what is the benzene concentration in remediation waste? _____ ppmw
   e. Does the waste contain >10% water/moisture? ❑ Yes ❑ No
   f. Has material been treated to remove 99% of the benzene or to achieve <10 ppmw? ❑ Yes ❑ No
   g. Is material exempt from controls in accordance with 40 CFR 61.342? ❑ Yes ❑ No
      → If yes, specify exemption: _____
   h. Based on your knowledge of your waste and the BWON regulations, do you believe that this waste stream is subject to treatment and control requirements at an off-site TSDF? ❑ Yes ❑ No
6. 40 CFR 63 GGGGG → Does the material contain <500 ppmw VOHAPs at the point of determination? ❑ Yes ❑ No
7. CERCLA or State-Mandated clean up → Please submit the Record of Decision or other documentation with process information to assist others in the evaluation for proper disposal. A "Determination of Acceptability" may be needed for CERCLA wastes not going to a CERCLA approved facility.
8. NRC or state regulated radioactive or NORM Waste → Please identify Isotopes and pCi/g: _____

Figure 4.1

Additional Profile Information

Profile Number: _____

C. MATERIAL INFORMATION

Material Composition and Contaminants (Continued from page 2): If more space is needed, please attach additional pages.

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Total composition must be equal to or greater than 100%	≥100%

D. REGULATORY INFORMATION

1. EPA Hazardous Waste
   a. Please list all USEPA listed and characteristic waste code numbers (Continued from page 2):

Figure 4.1

FIGURE 12.4-2
OVERVIEW OF THE PRE-ACCEPTANCE PROCESS

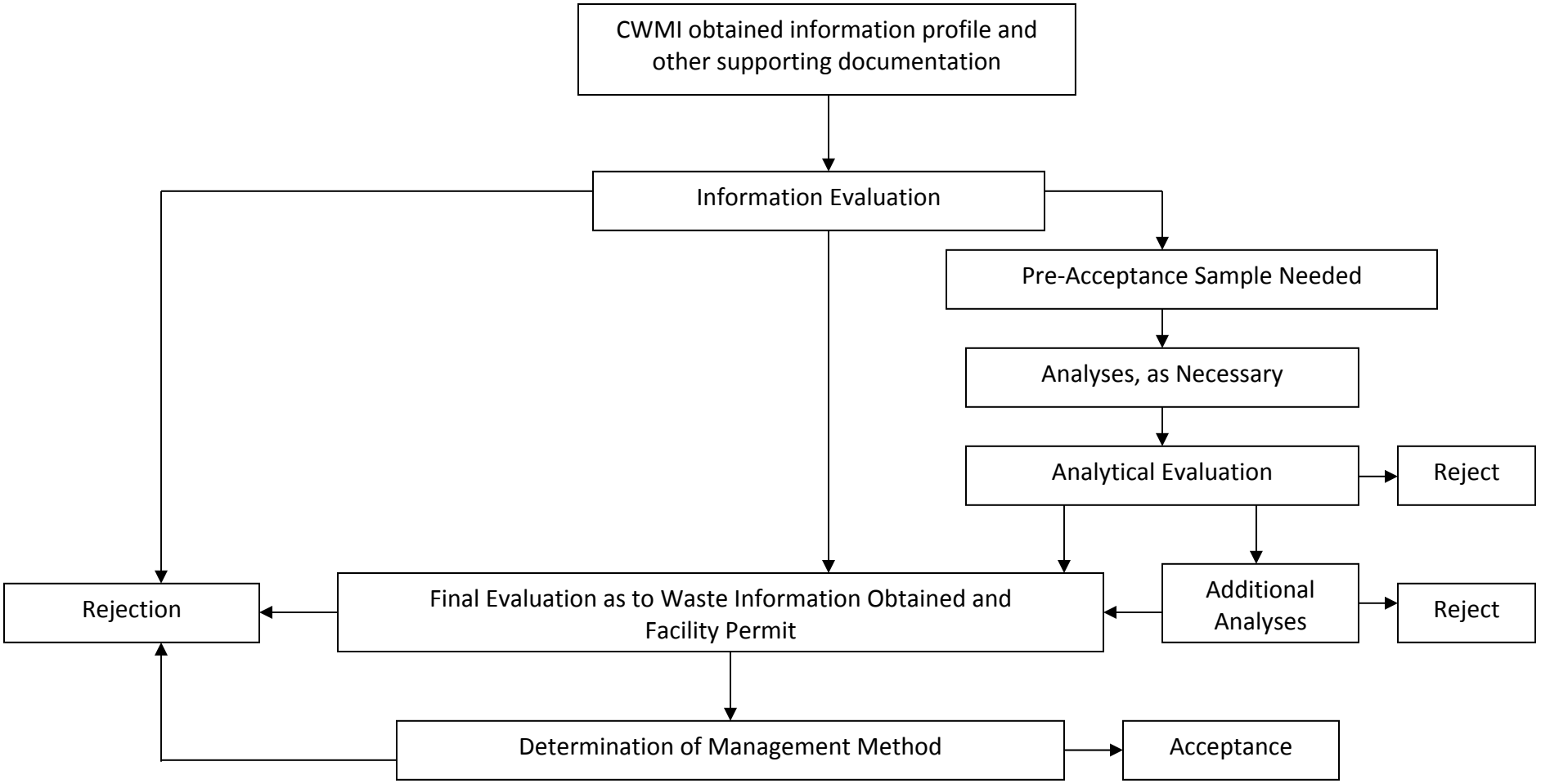

FIGURE 12.5-1
OVERVIEW OF THE INCOMING WASTE SHIPMENT IDENTIFICATION PROCESS

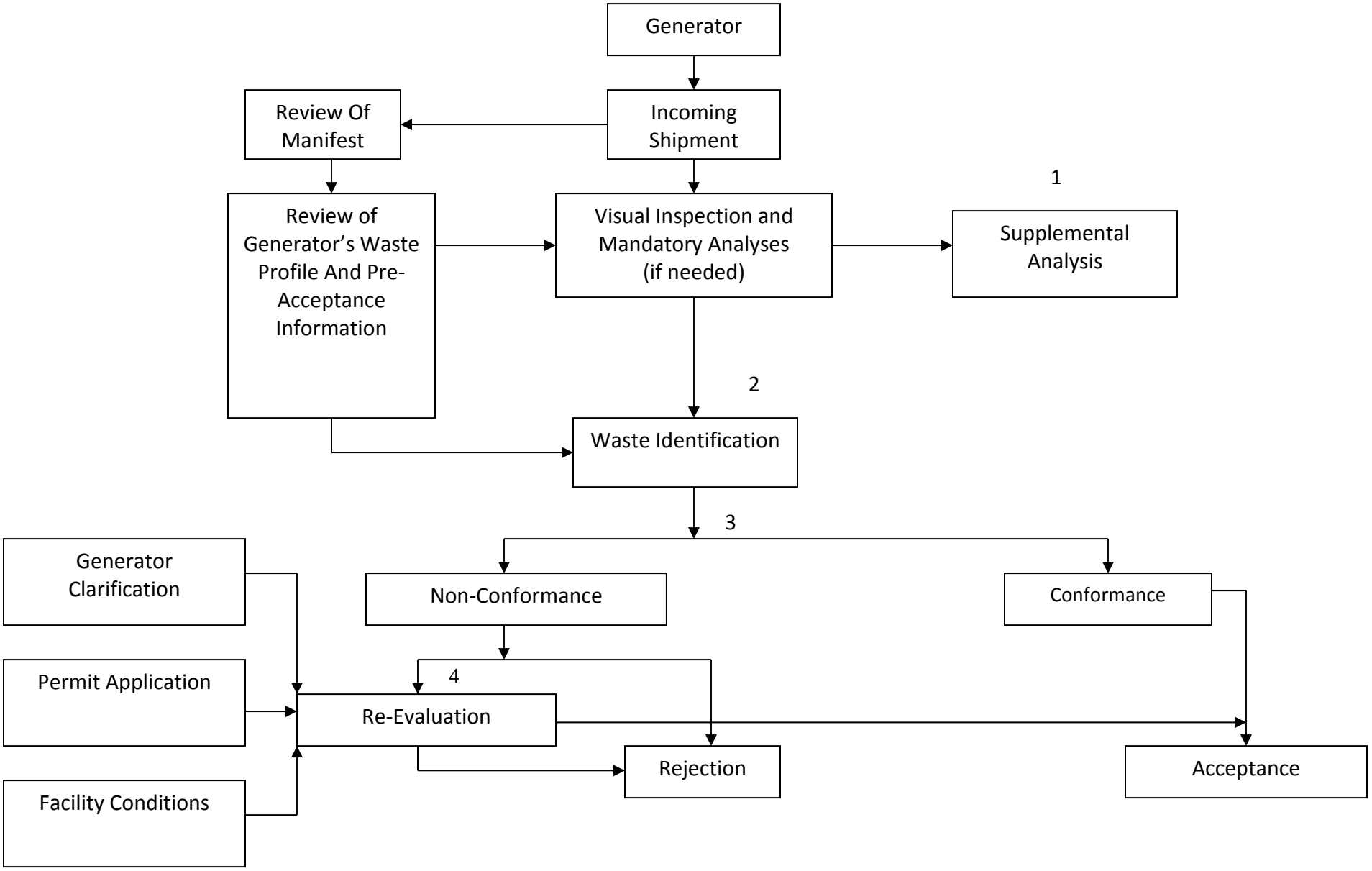

Figure 12.5-2

Examples of LDR Certification Forms used at the KHF.

CALIFORNIA RCRA LAND DISPOSAL RESTRICTION (LDR) NOTIFICATION AND CERTIFICATION FORM (PHASE IV)

WASTE MANAGEMENT

Generator Name: _____

CWM Profile Number: _____ Manifest Number: _____

Ref. #	2. US EPA HAZARDOUS WASTE CODE(s)	3. SUBCATEGORY ENTER THE SUBCATEGORY DESCRIPTION (If not applicable, simply check NONE		4. HOW MUST THE WASTE BE MANAGED? ENTER LETTER FROM BELOW
		DESCRIPTION	NONE	
1.				
2.				
3.				
4.				

1. Is this waste a non-wastewater or wastewater? (See 22 CCR 66260.10 and 40 CFR 268.2) Check ONE: ☐ Non-Wastewater ☐ Wastewater
   For hazardous debris meeting the definition of debris and subject to the alternate treatment standards in CCR Title 22, division 4.5, chapter 18, section 66268.45 and 40 CFR 268.45, check here: ☐
2. In **column 2**, identify ALL USEPA hazardous waste codes that apply to this waste shipment, as defined by CCR, Title 22, division 4.5, chapter 11 and 40 CFR 261.
   - To list additional waste code(s) use Land Disposal Notification/Certification Supplemental Form (CWM-2005-D) and check here: ☐
3. In **column 3**, for each waste code, identify the subcategory if one applies, or check NONE if the waste code has no subcategory.
4. In **column 4**, enter the letter from the list below (A. – D.) that describes how the waste must be managed to comply with the land disposal restriction regulations in CCR, Title 22, division 4.5, chapter 18 and 40 CFR 268. Please note that if you enter B.1, B.3, B.6 or D, you are certifying that the waste meets all the Land Disposal Restrictions and may be landfilled without further treatment. If you enter B.4, you are certifying that the waste has been decharacterized, but still requires treatment for UHCs.
5. Constituents of concern for waste codes F001-F005 and F039 and underlying hazardous constituents (UHCs) for D001-D043, must be identified unless the treatment facility will monitor for all constituents. **If any of these codes apply, check appropriate box below**:
   - To identify constituents of concern for F001-F005, F039 and UHCs, use the Identification of Constituents of Concern Form (CWM-2007) and check here: ☐
   - If UHCs are applicable, but none are present at the point of generation, check here: ☐
   - If incineration facility will monitor for all constituents of concern (except dioxins), check here: ☐

MANAGEMENT METHODS

A RESTRICTED WASTE REQUIRES TREATMENT
This waste must be treated to the applicable treatment standards set forth in CCR, Title 22, division 4.5, chapter 18 and 40 CFR 268.40.

B.1 RESTRICTED WASTE TREATED TO PERFORMANCE STANDARDS [22 CCR 66268.7(b)(4)]
"I certify under penalty of law that I personally have examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the treatment process has been operated and maintained properly so as to comply with the treatment standards specified in CCR, Title 22, division 4.5, section 66268.40 without impermissible dilution of the prohibited waste. I am aware there are significant penalties for submitting a false certification including the possibility of fine and imprisonment."

B.3 GOOD FAITH ANALYTICAL CERTIFICATION FOR INCINERATED ORGANICS [22 CCR 66268.7(b)(4)(C)]
"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the non- wastewater organic constituents have been treated by combustion units as specified in section 66268.42, Table 1. I have been unable to detect the non-wastewater organic constituents despite having used best faith efforts to analyze for such constituents. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

B.4 DECHARACTERIZED WASTE REQUIRES TREATMENT FOR UNDERLYING HAZARDOUS CONSTITUENTS [22 CCR 66268.7(b)(4)(D)]
"I certify under penalty of law that the waste has been treated in accordance with the requirements of CCR, Title 22, division 4.5, section 66268.40 or 66268.49, to remove the hazardous characteristic. This de-characterized waste contains underlying hazardous constituents that require further treatment to meet treatment standards. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

B.6 RESTRICTED DEBRIS TREATED TO ALTERNATE PERFORMANCE STANDARDS [22 CCR 66268.7(d)(3)(C)]
"I certify under penalty of law that the debris has been treated in accordance with the requirements of CCR Title 22, division 4.5, chapter 18, section 66268.45. I am aware that there are significant penalties for making a false certification, including the possibility of fine and imprisonment."

C. RESTRICTED WASTE SUBJECT TO A VARIANCE
This waste is subject to a national capacity variance, a treatability variance, or a case-by-case extension. Enter the effective date of prohibition in column (4) above.

CI. RESTRICTED WASTE CAN BE LAND DISPOSED WITHOUT FURTHER TREATMENT [22 CCR 66268.7(a)(3)(A)]
"I certify under penalty of law I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in CCR, Title 22, division 4.5, chapter 18, article 4. I believe that the information I submitted is true, accurate and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

I hereby certify that all information submitted in this and all associated documents is complete and accurate to the best of my knowledge and information.

Name: (Print) _____ Title: _____

Signature: _____ Date: _____

CALIFORNIA RCRA LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM (UTS) – (PHASE IV) Supplemental Page

Generator Name:_____ Manifest Doc. Number: _____

CWM Profile Number _____

This form is a continuation from CWM-2005-C for a waste identified by more than four USEPA waste code/groups. This page by itself IS NOT an acceptable Land Disposal Notification and Certification Form!

Continue (from form CWM-2005-C) to identify ALL USEPA hazardous wastes that apply to this waste shipment (as defined by CCR, Title 22, division 4.5, chapter 11). For each waste code, identify the corresponding subcategory or check NONE if the waste does not have a subcategory. Also identify in column 4 how the waste must be managed. To identify constituents of concern for F001-F005 and F039 and UHCs, use the Identification of Constituents of Concern for Waste Codes F001-F005, F039 and Underlying Hazardous Constituents (UHCs) Form (CWM-2007) and check here: ☐

Ref. #	2. US EPA HAZARDOUS WASTE CODE(s)	3. SUBCATEGORY ENTER THE SUBCATEGORY DESCRIPTION (If not applicable, simply check none)		4. HOW MUST THE WASTE BE MANAGED? (ENTER LETTER FROM FIRST PAGE OF CWM-2005-C)
		DESCRIPTION	NONE	
5				
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To list additional USEPA waste code(s) and subcategories, use the supplemental sheet provided (CWM-2005-D) and check here: ☐				

I hereby certify that all information submitted in this and all associated documents is complete and accurate to the best of my knowledge and information.

Signature: _____ Title: _____ Date: _____

CALIFORNIA RCRA CONTAMINATED SOILS LAND DISPOSAL RESTRICTION (LDR) NOTIFICATION AND CERTIFICATION FORM (PHASE IV)

Generator Name: _____

CWM Profile Number _____ Manifest Number: _____

Ref. #	3. US EPA HAZARDOUS WASTE CODE(s)	4. HOW MUST THE WASTE BE MANAGED? ENTER LETTER FROM BELOW
1.		
2.		
3.		
4.		

1. This waste is a non-wastewater (See 22 CCR 66260.10).

2. (Check One) This contaminated soil **[☐ does ☐ does not]** contain listed hazardous waste and **[☐ does ☐ does not]** exhibit a characteristic of hazardous waste and is **[☐ subject to / ☐ complies with]** the soil treatment standards as provided by section 66268.49(c) or the universal treatment standards.

3. In **column 3**, identify ALL USEPA hazardous waste codes that apply to this waste shipment, as defined by CCR, Title 22, division 4.5, chapter 11.
   To list additional waste code(s) use Land Disposal Notification/Certification Supplemental Form (CMW 2005-F) and check here: ☐
   For low Mercury subcategory waste (contains less than 260 ppm total Mercury) check here: ☐

4. In **column 4**, enter the letter from the Management Method list below (A.1, B.5 or D.) that describes how the waste must be managed to comply with the land disposal restriction regulations in 22 CCR 66268.49. Please note that if you enter B.5 or D, you are certifying that the waste meets all the Land Disposal Restrictions and may be landfilled without further treatment.

5. Underlying hazardous constituents (UHCs) if present must be identified. If any constituents apply, check appropriate box below:
   - To identify UHCs, use the Identification of Constituents of Concern Form (CWM-2007) and check here: ☐
   - If no UHCs (10x UTS) are present at the point of generation, check here: ☐

MANAGEMENT METHODS

A.1 RESTRICTED SOIL REQUIRES TREATMENT [22 CCR 66268.7(a)(2)(A)]
"I certify under penalty of law that I personally have examined this contaminated soil and it **[☐ does ☐ does not]** contain listed hazardous waste and **[☐ does ☐ does not]** exhibit a characteristic of hazardous waste and requires treatment to meet the soil treatment standards as provided by section 66268.49(c)".

B.5 RESTRICTED SOIL TREATED TO ALTERNATE PERFORMANCE STANDARDS [22 CCR 66268.7(b)(4)]
"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification and believe that it has been maintained and operated properly so as to comply with treatment standards specified in CCR, Title 22, division 4.5, section 66268.49without impermissible dilution of the prohibited wastes. I am aware there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

D. RESTRICTED SOIL CAN BE LAND DISPOSED WITHOUT FURTHER TREATMENT [22 CCR 66268.7(a)(3)(A)]
"I certify under penalty of law that I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in CCR, Title 22, division 4.5, chapter 18, article 4. I believe that the information I submitted is true, accurate, and complete. I am aware there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

I hereby certify that all information submitted in this and all associated documents is complete and accurate to the best of my knowledge and information.

Name: (Print) _____ Title: _____

Signature: _____ Date: _____

CALIFORNIA RCRA CONTAMINATED SOILS LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM (UTS) – (PHASE IV)
Supplemental Page

Generator Name:_____ Manifest Doc. Number: _____

CWM Profile Number _____

This form is a continuation from CWM-2005-E for a waste identified by more than five USEPA waste code/groups. This page by itself IS NOT an acceptable Land Disposal Notification and Certification Form!

Continue (from form CWM-2005-E) to identify ALL USEPA hazardous wastes that apply to this waste shipment (as defined by CCR, Title 22, division 4.5, chapter 11). Identify in column 4 how the waste must be managed. To identify constituents of concern for F001-F005 and F039 and UHCs, use the Identification of Constituents of Concern for Waste Codes F001-F005, F039 and Underlying Hazardous Constituents (UHCs) Form (CWM-2007) and check here: ☐

Ref. #	3. US EPA HAZARDOUS WASTE CODE(s)	4. HOW MUST THE WASTE BE MANAGED? (ENTER LETTER FROM FIRST PAGE OF CWM-2005-E)
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To list additional USEPA waste code(s) and subcategories, use the supplemental sheet provided (CWM-2005-F) and check here: ☐		

I hereby certify that all information submitted in this and all associated documents is complete and accurate to the best of my knowledge and information.

Signature: _____ Title: _____ Date: _____

California Identification of Constituents of Concern for Waste Codes F001-F005, F039 and Underlying Hazardous Constituents (UHCs)

Generator Name: _____ Manifest Number: _____

Profile Number _____

If D001-D043 requires treatment to 22 CCR 66268.48 and 40 CFR 268.48 standards, then each underlying hazardous constituent present in the waste at the point of generation, and at a level above the UTS constituent specific treatment standard, must be listed. Write the letter (A, B.1, B.3, B.4, B.6, C or D which corresponds to the letter on form CWM-LC-2005C) beside each constituent present, to properly describe how the constituent(s) must be managed under 22 CCR 66268.7 and 40 CFR 268.7. If contaminated soil requires treatment to the 22 CCR 66268.48 and 40 CFR 268.49 standards, then each UHC in the waste at the point of generation, and at a level above 10 x the UTS must be listed. Write the letter (A.1 or B.5) which corresponds to the letter on form CWM-LC-2005-E beside each constituent present.

CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	WW Mg/l	NWW Mg/kg	CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	WW Mg/l	NWW Mg/kg
Acenaphthene		0.059	3.4	n- Butanol (butly alcohol)		5.6	2.6
Acenaphthylene		0.059	3.4	Butyl benzyl phthalate		0.017	28
Acetone		0.28	160	Butylate[2]		0.042	1.4
Acetonitrile		5.6	38[2]	2-sec-Butyl-4,6-dinitrophenol *(Dinoseb)*		0.066	2.5
Acetophenone		0.010	9.7	Carbaryl[2]		0.006	0.14
2-Acetylaminofluorene		0.059	140	Carbenzadim[2]		0.056	1.4
Acrolein		0.29	NA	Carbofuran[2]		0.006	0.14
Acrylamide[2]		19	23	Carbofuran phenol[2]		0.056	1.4
Acrylonitrile		0.24	84	Carbon disulfide (TCLP)		3.8	4.8[1,2]
Aldicarb sulfone[2]		0.056	0.28	Carbon tetrachloride		0.057	6.0
Aldrin		0.021	0.066	Carbosulfan[2]		0.028	1.4
4-Aminobiphenyl		0.13	NA	Chlordane (alpha & gamma)		0.0033	0.26
Aniline		0.81	14	p-Chloroaniline		0.46	16
o-Ansidine		0.010	0.66	Chlorobenzene		0.057	6.0
Anthracene		0.059	3.4	Chlorobenzilate		0.10	NA
Aramite		0.36	NA	2-chloro-1,3-butadiene		0.057	0.28[2]
Barban[2]		0.056	1.4	Chlorodibromomethane		0.057	15
Bendiocarb[2]		0.056	1.4	Chloroethane		0.27	6.0
Benomyl[2]		0.056	1.4	bis-(2-Chloroethoxy) methane		0.036	7.2
Benz (a) anthracene		0.059	3.4	bis-(2-Chloroethyl) ether		0.033	6.0
Benzal chloride[2]		0.055	6.0	2-Chloroethyl vinyl ether[2]		0.062	NA
Benzene		0.14	10	Chloroform		0.046	6.0
Benzo (b) flouranthene[4]		0.11	6.8	bis-(2-Chloroisopropyl) ether		0.055	7.2
Benzo (k) flouranthene[4]		0.11	6.8	p-Chloro-m-cresol		0.018	14
Benzo (g,h,i) perylene		0.0055	1.8	Chloromethane (methyl chloride)		0.19	30
Benzo (a) pyrene		0.061	3.4	2-Chloronaphthalene		0.055	5.6
alpha-BHC		0.00014	0.066	2-Chlorophenol		0.044	5.7
beta-BHC		0.00014	0.066	3-Chloropropylene		0.036	30
delta-BHC		0.023	0.066	Chrysene		0.059	3.4
gamma-BHC (Lindane)		0.0017	0.066	p- Cresidine		0.010	0.66
Bromodichloromethane		0.35	15	o-Cresol		0.11	5.6
Bromomethane (methyl bromide)		0.11	15	m-Cresol		0.77	5.6
4-Bromophenyl phenyl ether		0.055	15	p-Cresol		0.77	5.6

California Identification of Constituents of Concern for Waste Codes F001-F005, F039 and Underlying Hazardous Constituents (UHCs)

CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	WW Mg/l	NWW Mg/kg	CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	WW Mg/l	NWW Mg/kg
m-Cumeyl methylcarbamate[2]		0.056	1.4	1,4-Dioxane		12	170
Cyclohexanone (TCLP)		0.36	0.75[1,2]	Diphenyl amine[4]		0.92	13[2]
o,p'-DDD		0.023	0.087	Diphenylnitrosoamine[4]		0.92	13[2]
p,p'-DDD		0.023	0.087	1,2-Diphenylhydrazine		0.087	NA
o,p'-DDE		0.031	0.087	Disulfoton		0.017	6.2
p,p'-DDE		0.031	0.087	Dithiocarbamates (total)[2,4]		0.028	28
o,p'-DDT		0.0039	0.087	Endosulfan I		0.023	0.066
p,p'-DDT		0.0039	0.087	Endosulfan II		0.029	0.13
Dibenz (a,h) anthracene		0.055	8.2	Endosulfan Sulfate		0.029	0.13
Dibenz (a,e) pyrene		0.061	NA	Endrin		0.0028	0.13
1,2-Dibromo-3-Chloropropane		0.11	15	Endrin aldehyde		0.025	0.13
1,2-Dibromoethane *(Ethylene dibromide)*		0.028	15	EPTC[2]		0.042	1.4
Dibromomethane		0.11	15	Ethyl acetate		0.34	33
m-Dichlorobenzene		0.036	6.0	Ethyl benzene		0.057	10
o-Dichlorobenzene		0.088	6.0	Ethyl cyanide (Propanenitrile)		0.24	360
p-Dichlorobenzene		0.090	6.0	Ethyl ether		0.12	160
Dichlorodifluoromethane		0.23	7.2	Ethyl methacrylate		0.14	160
1,1-Dichloroethane		0.059	6.0	Ethylene oxide		0.12	NA
1,2-Dichloroethane		0.21	6.0	bis-(2-Ethylyhexyl) phthalate		0.28	28
1,1-Dichloroethylene		0.025	6.0	Famphur		0.017	15
trans-1,2-Dichloroethylene		0.054	30	Fluoranthene		0.068	3.4
2,4-Dichlorophenol		0.044	14	Fluorene		0.059	3.4
2,6-Dichlorophenol		0.044	14	Formetanate hydrochloride[2]		0.056	1.4
2,4-Dichlorophenoxyacetic acid *(2,4-D)*		0.72	10	Heptachlor		0.0012	0.066
1,2-Dichloropropane		0.85	18	1,2,3,4,6,7,8-HpCDD		0.000035	0.0025
cis-1,3-Dichloropropylene		0.036	18	1,2,3,4,6,7,8-HpCDF		0.000035	0.0025
trans-1,3-Dichloropropylene		0.036	18	1,2,3,4,7,8,9-HpCDF		0.000035	0.0025
Dieldrin		0.017	0.13	Heptachlor epoxide		0.016	0.066
Diethyl phthalate		0.20	28	Hexachlorobenzene		0.055	10
p-Dimethylaminoazobenzene[2]		0.13[2]	NA	Hexachlorobutadiene		0.055	5.6
2,4-Dimethyleneaniline		0.010	0.66	Hexachlorocyclopentadiene		0.057	2.4
2,4-Dimethyl phenol		0.036	14	Hexachloroethane		0.055	30
Dimethyl phthalate		0.047	28	Hexachloropropylene		0.035	30
Di-n-butyl phthalate		0.057	28	Hexachlorodibenzo-p-dioxins		0.000063	0.001
1,4-Dinitrobenzene		0.32	2.3	Hexachlorodibenzo-furans		0.000063	0.001
4,6-Dinitro-o-cresol		0.28	160	Indeno (1,2,3-c,d) pyrene		0.0055	3.4
2,4-Dinitrophenol		0.12	160	Iodomethane		0.19	65
2,4-Dinitrotoluene		0.32	140	Isobutanol (Isobutyl Alcohol)		5.6	170
2,6-Dinitrotoluene		0.55	28	Isodrin		0.021	0.066
Di-n-octyl phthalate		0.017	28				
Di-n-propylnitrosoamine		0.40	14				

California Identification of Constituents of Concern for Waste Codes F001-F005, F039 and Underlying Hazardous Constituents (UHCs)

CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	WW Mg/l	NWW Mg/kg	CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	WW Mg/l	NWW Mg/kg
Isosafrole		0.081	2.6	1,2,3,4,6,7,8,9-OCDD		.000063	0.005
Kepone		0.0011	0.13	1,2,3,4,6,7,8,9-OCDF		.000063	0.005
Methacrylonitrile		0.24	84	Oxamyl[2]		0.056	0.28
Methanol (TCLP)		5.6	0.75[1,2]	Parathion		0.014	4.6
Methapyrilene		0.081	1.5	PCBs (Total) all isomers or Aroclors		0.10	10
Methiocarb[2]		0.056	1.4	Pebulate[2]		0.042	1.4
Methomyl[2]		0.028	0.14	Pentachlorobenzene		0.055	10
Methoxychlor		0.25	0.18	Pentachlorodibenzo-p-dioxins		.000063	0.001
Methyl ethyl ketone		0.28	36	Pentachlorodibenzo-furans		.000035	0.001
Methyl isobutyl ketone		0.14	33	Pentachloroethane[2]		0.055	6.0
Methyl methacrylate		0.14	160	Pentachloronitrobenzene		0.055	4.8
Methyl methanesulfonate		0.018	NA	Pentachlorophenol		0.089	7.4
Methyl parathion		0.014	4.6	Phenacetin		0.081	16
3-Methylcholanthrene		0.0055	15	Phenathrene		0.059	5.6
4,4-Methylene-bis-(2-chloroaniline)		0.50	30	Phenol		0.039	6.2
Methylene chloride		0.089	30	1,2-Phenylenediamine[2,3]		CMBST	CMBST
Metolcarb[2]		0.056	1.4	1,3-Phenylenediamine		0.010	0.66
Mexacarbate[2]		0.056	1.4	Phorate		0.021	4.6
Molinate[2]		0.042	1.4	Phthalic acid[2]		0.055	28
Naphthalene		0.059	5.6	Phthalic anhydride		0.055	28
2-Naphthylamine		0.52	NA	Physostigmine[2]		0.056	1.4
o-Nitroaniline[2]		0.27	14	Physostigmine salicylate[2]		0.056	1.4
p-Nitroaniline		0.028	28	Promecarb[2]		0.056	1.4
Nitrobenzene		0.068	14	Pronamide		0.093	1.5
5-Nitro-o-toluidine		0.32	28	Propham[2]		0.056	1.4
o-Nitrophenol[2]		0.028	13	Propoxur[2]		0.056	1.4
p-Nitrophenol		0.12	29	Prosulfocarb[2]		0.042	1.4
N-Nitrosodiethylamine		0.40	28	Pyrene		0.067	8.2
N-Nitrosodimethylamine		0.40	2.3[2]	Pyridine		0.014	16
N-Nitroso-di-n-butylamine		0.40	17	Safrole		0.081	22
N-Nitrosomethylethylamine		0.40	2.3	Silvex (2,4,5-TP)		0.72	7.9
N-Nitrosomorpholine		0.40	2.3	1,2,4,5-Tetrachlorobenzene		0.055	14
N-Nitrosopiperidine		0.013	35	Tetrachlorodibenzo-dioxins		.000063	0.001
N-Nitrosopyrrolidine		0.013	35	Tetrachlorodibenzo-furans		.000063	0.001
				1,1,1,2-Tetrachloroethane		0.057	6.0
				1,1,2,2-Tetrachloroethane		0.057	6.0
				Tetrachloroethylene		0.056	6.0
				2,3,4,6-Tetrachlorophenol		0.030	7.4
				Thiodicarb[2]		0.019	1.4

California Identification of Constituents of Concern for Waste Codes F001-F005, F039 and Underlying Hazardous Constituents (UHCs)

CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	WW Mg/l	NWW Mg/kg	CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	WW Mg/l	NWW Mg/kg
Thiophanate-methyl[2]		0.056	1.4	Antimony		1.9	1.15[1]
Toluene		0.080	10	Arsenic		1.4	5.0[1]
Toxaphene		0.0095	2.6	Barium		1.2	21.0[1]
Triallate[2]		0.042	1.4	Beryllium		0.82	1.22[1,6]
Bromoform (Tribromomethane)		0.63	15	Cadmium		0.69	0.11[1]
1,2,4-Trichlorobenzene		0.055	19	Chromium (Total)		2.77	0.60[1]
1,1,1-Trichloroethane		0.054	6.0	Cyanides (Total)		1.2	590
1,1,2-Trichloroethane		0.054	6.0	Cyanides (Amenable)		0.86	30[6]
Trichloroethylene		0.054	6.0	Fluoride[3]		35	NA
Trichloromonofluoromethane		0.020	30	Lead		0.69	0.75[1]
2,4,5-Trichlorophenol		0.18	7.4	Mercury (non-waste water from retort)		NA	0.20[1,2]
2,4,6-Trichlorophenol		0.035	7.4	Mercury (All others)		0.15	0.025[1]
2,4,5-T		0.72	7.9	Nickel		3.98	11.0[1]
1,2,3-Trichloropropane		0.85	30	Selenium		0.82	5.7[1,5]
1,1,2-Trichloro-1,2,2-trifluoroethane		0.057	30	Silver		0.43	0.14[1]
Triethylamine[2]		0.081	1.5	Sulfide[3]		14	NA
Tris(2,3-dibromopropyl)phosphate		0.11	0.10[2]	Thallium		1.4	0.20[1]
Vernolate[2]		0.042	1.4	Vanadium[3]		4.3	NA | 1.6[1]
Vinyl chloride		0.27	6.0	Zinc[3]		2.61	NA | 4.3[1]
Xylene(sum of o-,m-,and p- isomers)[4]		0.32	30	2-Ethoxyethanol (F005)[7]		INCIN or BIODG	INCIN
				2-Nitropropane (F005)[7]		INCIN or CHOXD	INCIN

❑ No UHC's apply

1. These concentrations are expressed in mg/l and are measured through an analysis of TCLP extract; all others measured through a total waste analysis.
2. These constituents are only applicable as Underlying Hazardous Constituents. They are not constituents requiring treatment in F039 wastes.
3. Not an underlying hazardous constituent requiring treatment in D001-D043 wastes, per 22 CCR 66260.10 and 40 CFR 268.2(i). F039 WW standard only.
4. These compounds are regulated by the sum of their concentration instead of as individual constituents.
5. Effective August 24, 1998 in unauthorized states or states with no LDR program, Selenium at 5.7 Mg/L is not considered an underlying hazardous constituent in D001-D043 waste as it is above the characteristic level. This becomes effective in authorized states once that state adopts.
6. These constituents are applicable as Underlying Hazardous Constituents. F039 WW standard applicable.
7. Waste contains this compound as the only listed F001-F005 solvent.

I hereby certify that all information submitted in this and all associated documents is complete and accurate to the best of my knowledge and information.

Name: (Print) _____ Title: _____

Signature: _____ Date: _____

CALIFORNIA NON-RCRA LAND DISPOSAL RESTRICTION NOTIFICATION AND CERTIFICATION

Generator Name: _____ Manifest Number: _____

Generator Address: _____

CWM Profile Number _____ California Hazardous Waste Code(s): _____

This form is submitted to Chemical Waste Management in accordance with the requirements of CCR Title 22, Division 4.5, Chapter 18, Article 1, which restricts the land disposal of certain hazardous wastes. I have marked the appropriate box (boxes A through D) below to indicate how my waste must be managed to conform to the land disposal restrictions. A copy of all applicable treatment standards and waste analysis data, where available, is maintained at the Chemical Waste Management facility identified on the manifest referenced above. I have entered the appropriate California Waste Code and checked the appropriate box in the table below to indicate the applicable non-RCRA hazardous waste listing from 22 CCR 66268.29.

✔	State of California Restricted Waste Description Listed in 22 CCR 66268.29	Prohibition Implementation Date	Corresponding Treatment Standard (from 22 CCR)
☐	Metal-containing aqueous waste identified in 22 CCR 66268.29(a).	01/26/90	66268.107(a)
☐	Auto shredder waste identified in section 66268.29(b).	05/08/91	66268.106(a)(1)
☐	Hazardous waste foundry sand identified in section 66268.29(c).	01/01/91	66268.106(a)(2)
☐	Fly ash, bottom ash, retort ash or baghouse waste identified in 66268.29(d).	01/01/91	66268.106(a)(3)
☐	Baghouse waste from foundries identified in section 66268.29(e).	01/01/91	66268.106(a)(4)
☐	Asbestos-containing waste identified in section 66268.29(f).	03/01/93	66268.114

☐ **A. RESTRICTED WASTE REQUIRES TREATMENT**

I am the generator of the waste identified above which must be treated to meet the applicable treatment standards set forth in CCR Title 22, Division 4.5, Article 4 or Article 11 of Chapter 18.

☐ **B.1 RESTRICTED WASTE TREATED TO PERFORMANCE STANDARDS [22 CCR 66268.7(b)(7)(C)]**

"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the treatment process has been operated and maintained properly so as to comply with treatment standards specified in CCR, Title 22, division 4.5, chapter 18, article 11 [or all applicable prohibitions in section 66268.32] without impermissible dilution of the prohibited waste. I am aware there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

☐ **B.2 RESTRICTED ASBESTOS WASTE TREATED TO PERFORMANCE STANDARD [22 CCR 66268.7(a)(11)(B)]**

"I warrant that I am an authorized representative of the generator. I certify under penalty of law that the waste complies with the treatment standards specified in CCR, Title 22, Division 4.5, Chapter 18, section 66268.114. I believe that the information I submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment." *

☐ **C. RESTRICTED WASTE SUBJECT TO AN EXEMPTION [22 CCR 66268.7(a)(4)]**

The waste identified above is subject to a prohibition implementation date of _____

☐ **D. RESTRICTED WASTE CAN BE LAND DISPOSED WITHOUT TREATMENT [22 CCR 66268.7(a)(3)(D)]**

"I certify under penalty of law that I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in CCR, Title 22, division 4.5, chapter 18, article 11 [or all applicable prohibitions in section 66268.32]. I believe that the information I submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment."

I hereby certify that all information submitted in this and all associated documents is complete and accurate to the best of my knowledge and information.

Name: (Print) _____ Title: _____

Signature: _____ Date: _____

*Note: Generator address and printed name of authorized representative required for Box B.2

Figure 12.5-3

Example of Incoming Waste Shipment Load Form

TIME	DATE	WEIGHT (LB)	COMMODITY: HAZARDOUS WASTE
GROSS:			DEPUTY WEIGHMASTER _____
TARE:			_____
NET: _____ LB			YARDAGE: _____

CHEMICAL WASTE MANAGEMENT, INC.
WEIGHMASTER weighed at
35251 Old Skyline Road
Kettleman City, CA

NO: _____

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professions Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

GENERATOR	MANIFEST	PROFILE	SAMPLE TIME

TRACTOR LICENSE #	TRAILER LICENSE NO.	BIN #	RECEIPT #	DRIVER

SAMPLE #	NO SAMPLE PER WAP # (CIRCLE ONE) 1 2 3 4 5 6 7 8 9 10	TRANSPORTER

MANDATORY ANALYSIS

PHYSICAL STATE	SOLID	LIQUID	
APPEARANCE	_____		
pH	_____		
WATER MIX	Δ T _____ °F	_____ SOL	
FLAM POTENTIAL	NEG	POS	
CN^- SCREEN	NEG	POS	_____ PPM
$S^=$ SCREEN	NEG	POS	_____ PPM
OXIDIZER SCREEN	NEG	POS	
RAD. SCREEN	BKGD	POS	
ANALYST	_____		

SUPPLEMENTAL ANALYSIS

PAINT FILTER TEST	N/A	PASS	FAIL
VISIBLE OIL	NEG	POS	
PERCENT SOLID	_____		
DENSITY	_____ LB/G		
CALCULATED QTY	_____		
LWCT	Δ T _____ °F		
SET	Δ T _____ °F		
> 50% DEBRIS	YES	NO	
> 60 mm	YES	NO	
< 6.75 ft.	YES	NO	
CAN MAJORITY OF WASTE BE COATED ON ALL SIDES?	YES	NO	
	INIT	_____	

WASHOUT METER

FINISH _____
START _____

GALLONS USED

MULTIPLE LOAD # _____
SEE MANIFEST _____
PROFILE EXPIRATION _____
TREATMENT CODE _____ UNIT _____
TIME OUT _____
REC. TECH. _____

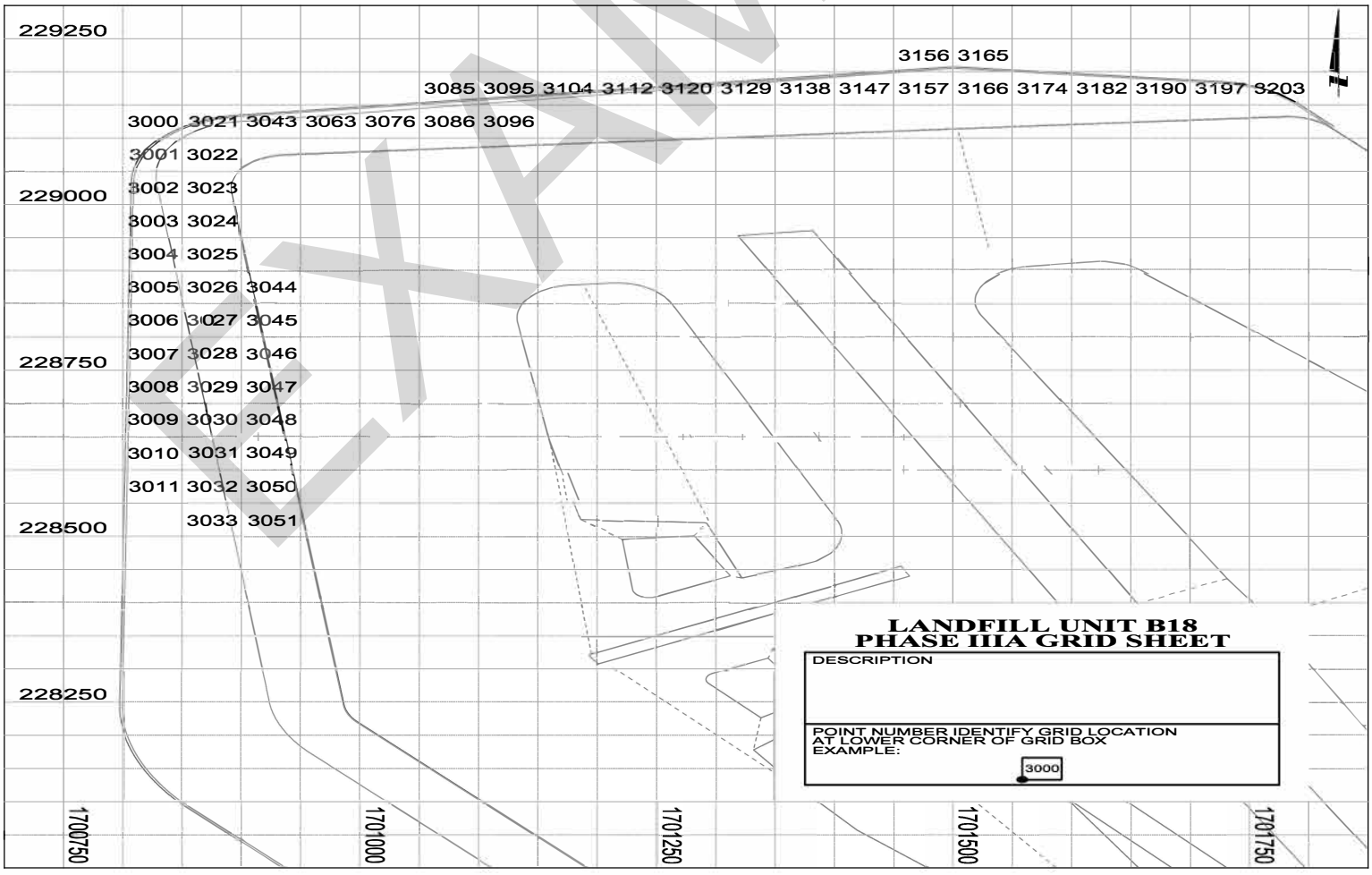


FIGURE 12.6-1
STORAGE

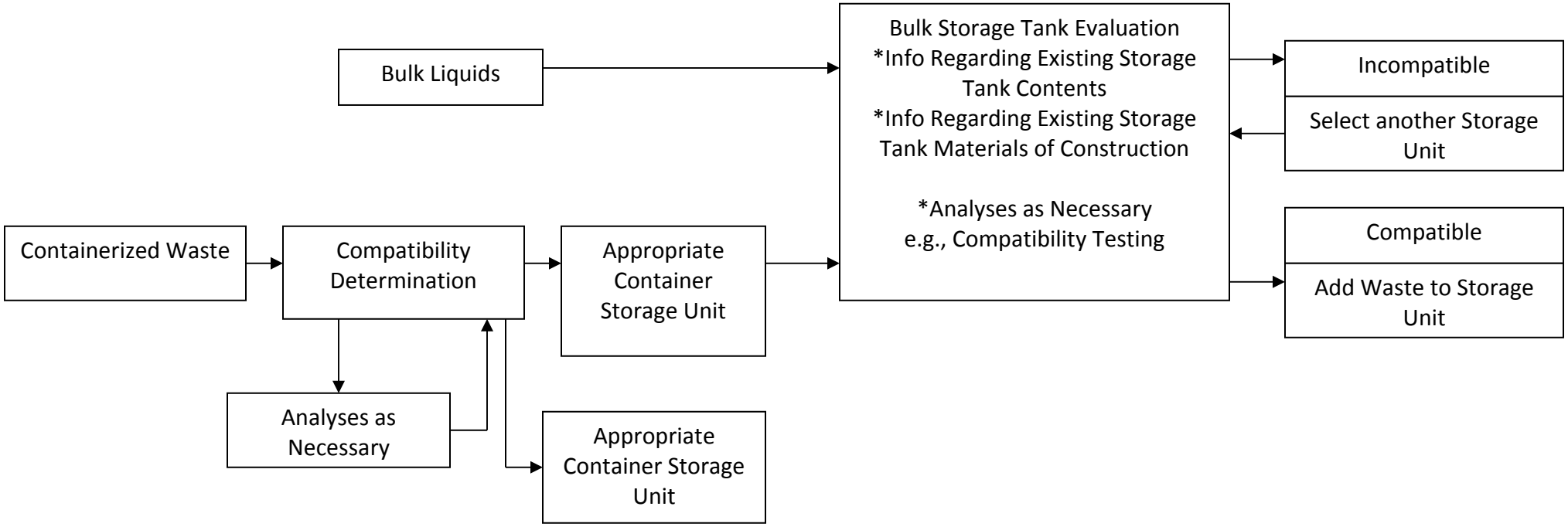


FIGURE 12.6-2
REPACKING / BULKING

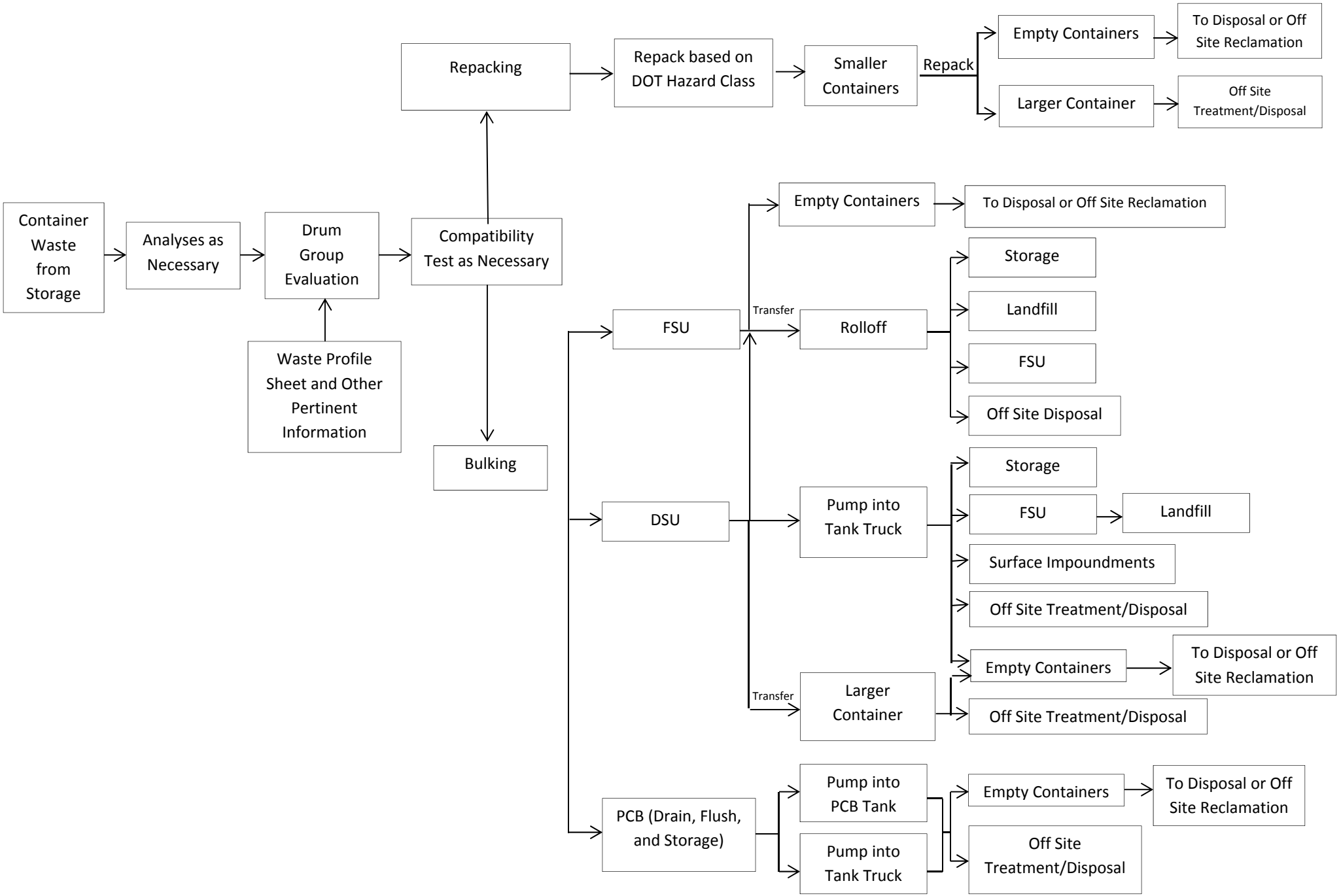


FIGURE 12.6-3
MACROENCAPSULATION

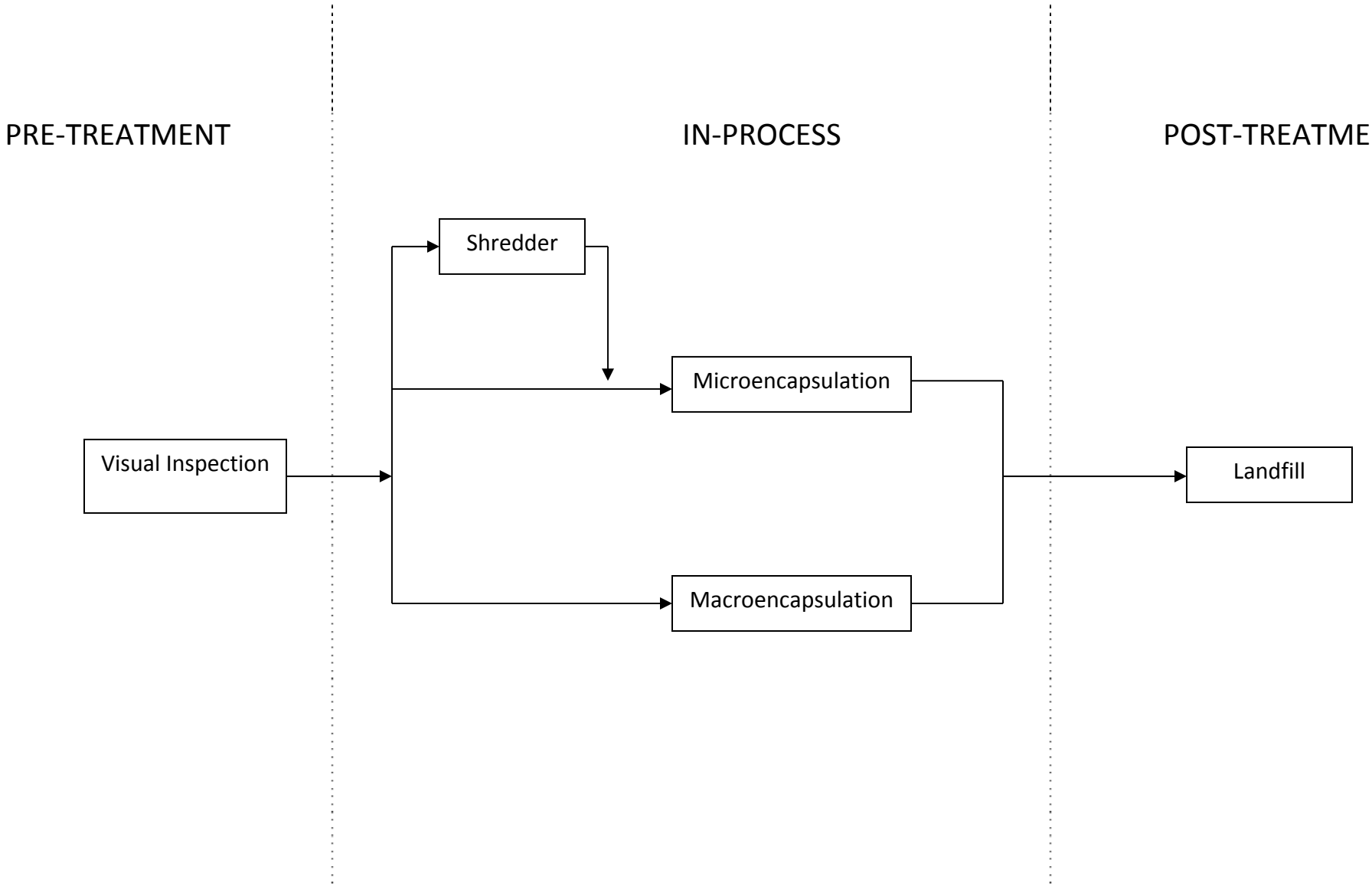
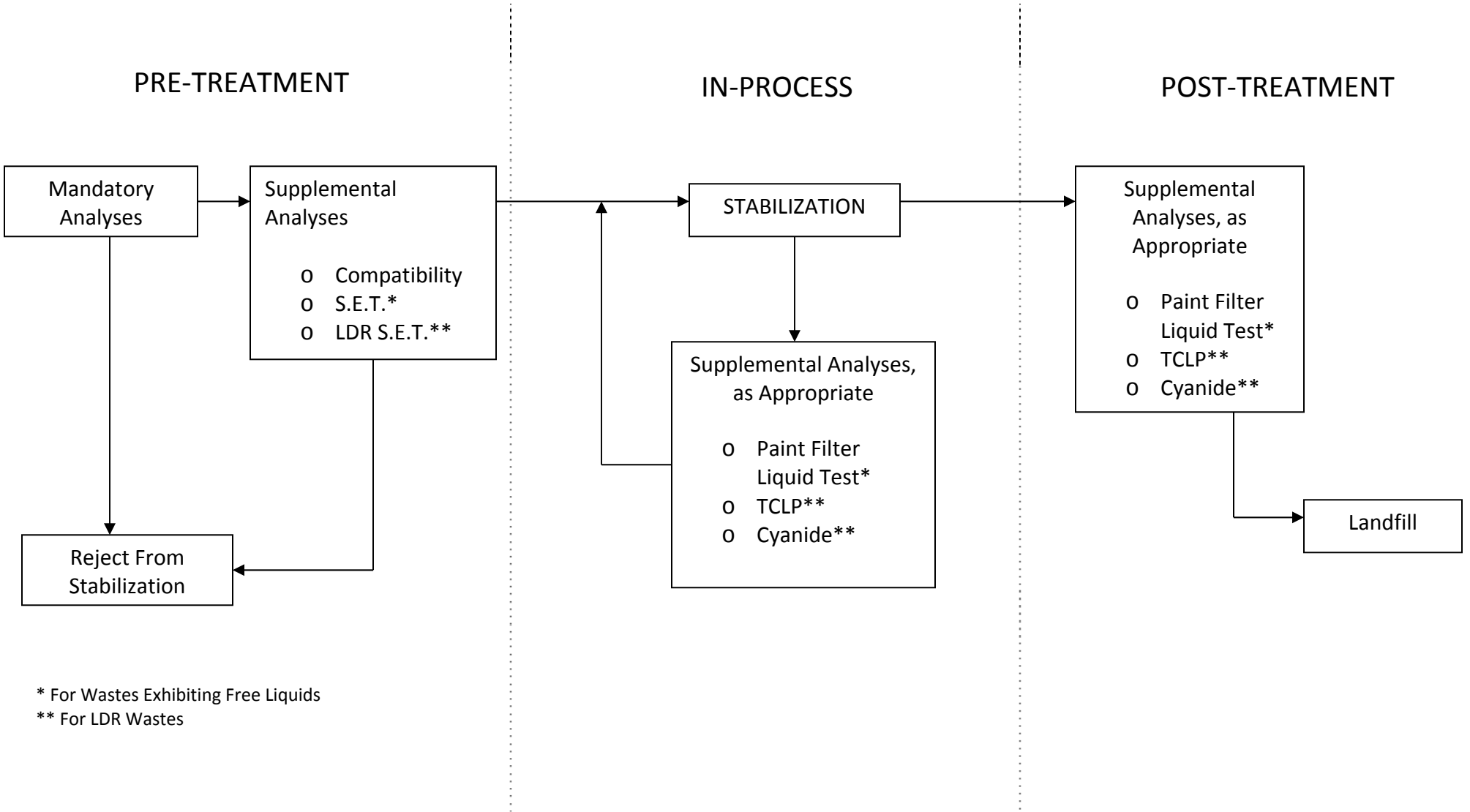


FIGURE 12.6-4
STABILIZATION



* For Wastes Exhibiting Free Liquids
** For LDR Wastes

FIGURE 12.6-5
SOLAR EVAPORATION

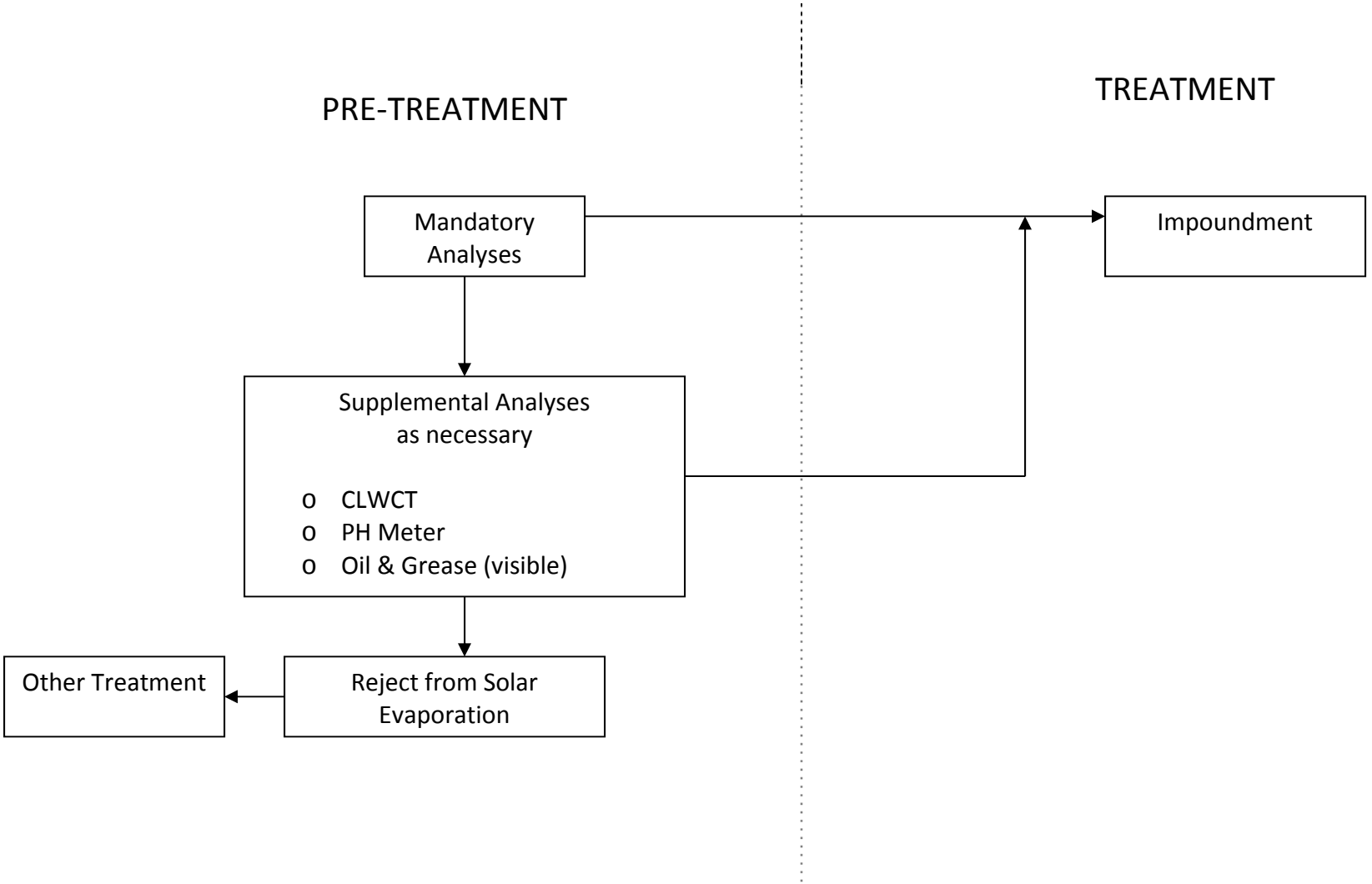
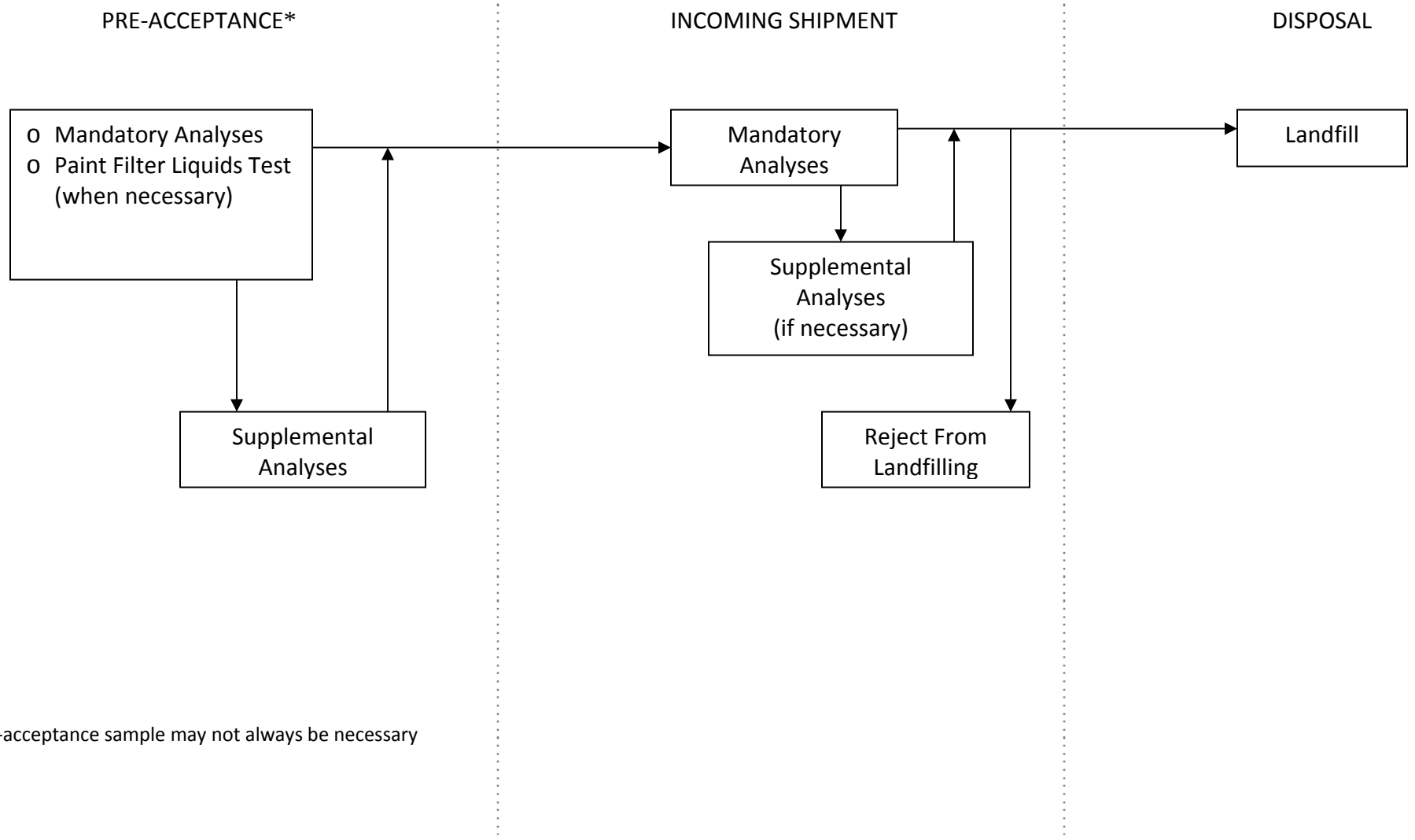


FIGURE 12.6-6
LANDFILL



*A pre-acceptance sample may not always be necessary

Figure 12.6-7

Examples of Stabilization Forms

1. NON-DEBRIS WASTE

WASTE TREATMENT AND DISPOSAL FORM

02/12/08 SC

GENERATOR:	PROFILE #:	MANIFEST # / REPACK#:	
	DATE RECEIVED**:**	CONTAINER #:	
WASTE CODES**:**	UHCs:	TT / YD	

2. STORAGE AND/OR TRANSFER INFORMATION

Date:	R.O. Box #'s:	BSU #:

3. S.H.I.P. AND OTHER INSTRUCTIONS

Wear Full Air: Yes / No	Odorous: Yes / No	Dust Control Required: Yes / No	Temperature Rise: Yes / No
Heavy Metals: Yes / No	pH: Yes/ No	Other: _____	

4. RECIPE INSTRUCTIONS :

Process Code: 4N 4R 4NH 3C 06			Follow Steps in Recipe: Yes / No			Hold in Boxes for STE: Yes / No				
Laboratory Recipe Approval (Signature):						Date:				
Steps:	**1**	**2**								
Reagent:	Waste	Water (G)	NaOCI (G) (10.1 lb/gal)	FeSO4	Ca Poly S (G) (10.6 lb/gal)	Cement	CKD	Ash	Other	Wash Out (G)
Ratio:	**1.0**	AN								
Added:										
Above Quantities Calculated by This Weight:			LBS. including water: YES / NO					Recipe Percentage (+/-) 10% Met: YES / NO		
PFT Results		Delta T:		Treated By:				Date:		Bin #

5. ADDITIONAL MANIFEST(S) ADDED TO ORIGINAL WASTE RECEIVED

Generator	Manifest #	Profile	Yardage	Date	Quantity (gal/lbs)

6. CERTIFICATION **NOTE: 4N WITH D002 MUST HAVE THE APPROPRIATE CERTIFICATION BOX CHECKED.**

□ I For RCRA Wastes with no UHCs: "I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the treatment process has been operated and maintained properly so as to comply with treatment standards specified in CCR, Title 22 division 4.5, section 66268.40 without impermissible dilution of the prohibited waste. I am aware there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment." 22 CCR 66268.7 (b)(4)

□ II Contaminated Soils treated to the Alternative Treatment Standards for Contaminated Soils: "I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification and believe that it has been maintained and operated properly so as to comply with treatment standards specified in CCR, Title 22, division 4.5, section 66268.49 without impermissible dilution of the prohibited wastes. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment." 22 CCR 66268.7 (b)(4)

□ III For RCRA Characteristic Wastes that contain UHCs requiring treatment . "I certify under penalty of law that the waste has been treated in accordance with the requirements of CCR, Title 22, division 4.5, section 66268.40 to remove the hazardous characteristic and that underlying hazardous constituents, as defined in section 66260.10 have been treated on-site to meet the section 66268.48 Universal Treatment Standards. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment." 22 CCR 66268.7 (b) (4) (E)

□ IV For Non-RCRA waste requiring treatment: "I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the treatment process has been operated and maintained properly so as to comply with treatment standards specified in CCR, Title 22 division 4.5, chapter 18, article 11 [or all applicable prohibitions in section 66268.32] without impermissible dilution of the prohibited waste. I am aware there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment." 22 CCR 66268.7 (b)(7)

Certification Signature:	Date:

7. WASTE POST-TREATMENT & LABORATORY APPROVAL

R.O. Box	Date	Cubic Yards	Storage Unit	Date Disposed	Grid	Elevation	Cell Mapper Signature
Analytical Releasing Signature to Landfill:						Date:	

8. DISPOSAL INFORMATION (non-STE only)

	(4NH) Non-Hazardous Waste
	(4N) Non-LDR Waste [Exception: D002 is an LDR waste.]
	(4R) LDR Waste Not Requiring Post-treatment Testing
	(3C) Direct Landfill

Cubic Yards to Landfill:	Grid:	Elevation:	
Cell Mapper Signature:		Date:	Time: AM / PM

9. CHAIN-OF-CUSTODY RECORD (STE or other testing)

Sample Point:	Containers:	Date:	Time AM / PM
Sampler's Signature:			
Releasing Signature:		Date:	
Receiving Signature:		Date:	

DEBRIS WASTE **WASTE TREATMENT AND DISPOSAL FORM** 04/19/05JS

GENERATOR:	PROFILE #:	MANIFEST #:	
	START ACCUMULATION DATE:		CONTAINER #:
WASTE CODES**:**	UHCs:		WTL#:

STORAGE AND/OR TRANSFER INFORMATION

Date:	R.O. Box #'s:	BSU #:	Approval:

S.H.I.P. AND OTHER INSTRUCTIONS

Wear Full Air: Yes / No	Odorous: Yes / No	Dust Control Required: Yes / No	
Heavy Metals: Yes / No	pH: Yes/ No	Other: _____	

INSTRUCTIONS

Process Code (Circle One): MICRO MACRO									
Follow Steps in Recipe: Yes / No									
Steps:	**1**	**2**							
Reagent:	Waste	Water	CKD	CEMENT	OTHER	Wash Out			
Ratio:	**1.0**	AN							
NOTE: For MICRO waste must be entirely coated with reagent.									
Treated By:				Date:			Bin #		

ADDITIONAL MANIFEST ADDED TO ORIGINAL WASTE RECEIVED

Generator	Manifest #	Profile	Yardage	Date	Repack Location

DEBRIS EVALUATION (To be completed by Receiving unless unable to obtain an adequate visual description of waste.)			PROCESSED WASTE INFORMATION			
>50%: YES / NO	>60mm: YES / NO	<6.75 Feet: YES / NO	R.O. Box	Date	Cubic Yard	Storage Unit
Description: WOOD, CARDBOARD, MONITOR DEBRIS						
CAN MAJORITY OF DEBRIS BE COATED ON ALL SIDES: YES / NO						
Certification Signature:		Date				

MACROENCAPSULATION DISPOSAL INFORMATION

R.O. Box	Date	Cubic Yards	Welders Name	Date	Time	Grid	Elevation	Cell Mapper Signature
I certify under penalty of law that the debris has been treated in accordance with the requirements of CCR Title 22, Division 4.5, Chapter 18 Section 66268.45. I am aware that there are significant penalties for making a false certification, including the possibility of fine and imprisonment.								
Certification Signature:				Date:				

MICRO ENCAPSULATION DISPOSAL INFORMATION

Micro encapsulation Debris not requiring post treatment testing			
I certify under penalty of law that the debris has been treated in accordance with the requirements of CCR Title 22, Division 4.5, Chapter 18 Section 66268.45. I am aware that there are significant penalties for making a false certification, including the possibility of fine and imprisonment.			
Certification Signature:		Date:	
Cubic Yards to Landfill:	Grid:	Elevation:	
Cell Mapper Signature:	Date:	Time:	AM / PM

APPENDIX WAP-B

LAND DISPOSAL RESTRICTION SAMPLING

LAND DISPOSAL RESTRICTION SAMPLING

The procedures described herein represent the sampling and analytical procedures established for use at the facility for the treatment, storage and disposal of Land Disposal Restricted hazardous waste, see 40 CFR Part 268 and 22 CCR, Div. 4.5, Chapter 18.

I. LEACHATE

On-site generated untreated leachate will be sampled and analyzed for conformance to the treatment standards for F039 as follows:

1. The untreated leachate, F039, will be sampled, analyzed and evaluated initially for constituents on the F039 Treatment Standards list. This constitutes the "initial characterization."

2. At a minimum, once every 24 months untreated leachate will be sampled and analyzed for all F039 constituents and will be evaluated to ensure the leachate is being managed appropriately based on the land disposal restrictions of 40 CFR Part 268 and 22 CCR, Div. 4.5, Chapter 18.

3. All leachate meeting the F039 listing as defined in 22 CCR 66261.31 and 40 CFR Part 261 shall be sampled from the individual hazardous waste risers for waste characterization at the frequencies stated above.

4. F039 leachate from independent risers that have conflicting or different treatment or disposal methods will not be combined.

The decision to accept off-site generated leachate will be conducted as detailed in the pre-acceptance section of the WAP.

APPENDIX WAP-C

THERMAL MEASUREMENT PROCEDURE FOR BULK SOLID WASTES

THERMAL MEASUREMENT PROCEDURE
FOR BULK SOLID WASTES

1. Upon receipt of waste streams which may retain residual process heat (for example, furnace slag, catalyst, incinerator ash, etc.), or any waste stream which appears to have an elevated temperature, the sampler shall measure the temperature of the waste using the temperature sensing device.
2. The temperature sensing device shall be used in accordance with the manufacturer's operating instructions.
3. The temperature reading shall be recorded in the log book.
4. If the temperature of the waste is above 150°F, the waste shall not be placed in the landfill. The waste shipment shall be staged until the temperature has decreased below 150°F.

APPENDIX WAP-D

RADIONUCLIDE SCREENING FOR INCOMING WASTE SHIPMENTS

RADIONUCLIDE SCREENING PROCEDURES FOR INCOMING WASTE SHIPMENTS

1. As a vehicle enters the inbound truck scales, mounted radiation detectors at the facility (RadComm Systems RC2W34-2, or equivalent) screen the moving vehicle for the presence of radionuclides. If radiation signatures are present in a load of waste above a set threshold (minimum threshold setting will be five times (5x) background), the system will immediately alarm site personnel that a potential radioactive source has been detected.
    a. Site personnel may request the vehicle pass through the radiation detection system a second time to confirm the initial alarm.
    b. If a vehicle cannot be subjected to the screening using the fixed vehicle radiation detection system, KHF may utilize alternate radiation meters, e.g. handheld geiger counters, to scan incoming waste shipments and compare to background levels.
2. Upon confirmation of a positive alarm, site personnel will request the vehicle continue to the truck staging area. Attempts will be made to isolate the waste shipment from other traffic to minimize exposure.
3. Using a handheld radioisotope identification device (e.g. Exploranium GR-135, RadComm Syclone, or equivalent) site personnel will scan the waste shipment to identify the radioisotope.
    a. If a handheld radioisotope identification device is not readily available or the radioisotope cannot be readily identified by site personnel, and the waste shipment is not expected to have radionuclides present, (e.g. waste containing radioactive materials exempt from regulation and licensing or materials authorized for disposal under the Radiation Control Law, Chapter 8 (commencing with section 114960) of Part 9 of Division 104 of the Health and Safety Code, including naturally occurring radioactive material (NORM) and Materials Released for Unrestricted Use), Site management will contact the California Department of Public Health – Radiological Health Branch (CDPH-RHB) for assistance in identifying the isotope .
    b. Waste shipments expected to have radionuclides present, (e.g. waste containing radioactive materials exempt from regulation and licensing or materials authorized for disposal under the Radiation Control Law, Chapter 8 (commencing with section 114960) of Part 9 of Division 104 of the Health and Safety Code, including naturally occurring radioactive material (NORM) and Materials Released for Unrestricted Use), will not be subjected to radioisotope identification, but will still be scanned for radiation levels to confirm concentrations are not indicative of regulated source material.
4. Upon identification of the radioisotope and radiation levels, the generator will be contacted to determine the source of the radiation. Waste material will only be accepted by the facility, if the source of the radiation can be identified and/or prior approval has been received from the CDPH-RHB. If the source is unknown, site management will contact the CDPH-RHB for guidance on load handling.

13.0 EXEMPTIONS, EXTENSIONS, AND VARIANCES TO LAND DISPOSAL RESTRICTIONS

22 CCR 66270.14(b)(20)

On May 26, 1999, EPA issued KHF a treatment standard variance for selenium waste from two glass manufacturing plants (Exhibit 13-1: FRL-6346-2). EPA approved a 3-year extension to the site-specific treatment variance on May 28, 2002 (Exhibit 13-2: FRL-7217-4). On February 11, 2004, EPA changed the status of the variance for these two waste streams from temporary to permanent (Exhibit 13-3: FRL-7620-2). Specifics of the variance can be found in the attached Federal Register listings and in the table at the end of 40 CFR 268.44.

The selenium waste covered under EPA's site-specific variance is subject to the requirements of the Waste Analysis Plan found in Chapter 12.0. As specified by the Waste Analysis Plan, section 6.3.3.2 – Stabilization of Land Disposal Restricted Wastes, "certain LDR wastes are stabilized to meet the appropriate LDR treatment standard." The appropriate LDR treatment standard for the two waste streams identified in the site-specific variance can be found in the table at the end of 40 CFR 268.44.